

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

AGERE SYSTEMS, INC., CYTEC
INDUSTRIES INC., FORD MOTOR
COMPANY, SPS TECHNOLOGIES, LLC
and TI GROUP AUTOMOTIVE SYSTEMS
L.L.C.,

Plaintiffs,

v.

ADVANCED ENVIRONMENTAL
TECHNOLOGY CORPORATION, et al.,

Defendants.

Civil Action No. 02-CV-3830 (LDD)

**PLAINTIFFS' POST-TRIAL PROPOSED FINDINGS OF FACT AND CONCLUSIONS
OF LAW**

Plaintiffs Agere Systems, Inc., Cytec Industries Inc., Ford Motor Company, SPS Technologies, LLC and TI Group Automotive Systems L.L.C. ("Plaintiffs"), through their counsel, hereby submit their Post-Trial Proposed Findings of Fact and Conclusions of Law.

PROPOSED FINDINGS OF FACT

The Boarhead Farm Site

1. The Boarhead Farms Superfund Site (the "Site") is located in Bridgeton Township, Pennsylvania on Lonely Cottage Road in Upper Black Eddy. J-33, Facts Stipulated by All Parties, ¶ 1; Trial Transcript, June 23, 2008, 52:2-4 (G. Seibel).

2. The Site is approximately 120 acres in size. Trial Transcript, June 23, 2008, 52:2-4 (G. Seibel).

3. The area of the Site and the surrounding properties is largely wooded and residential. Trial Transcript, June 23, 2008, 52:13-15 (G. Seibel).

4. Manfred T. DeRewal (“DeRewal”) incorporated Boarhead Corporation on or about September 2, 1969. J-33, Facts Stipulated by All Parties, ¶ 9; J-1, Boarhead Corporation Certificate of Incorporation dated September 2, 1969.

5. The Site was conveyed to Boarhead Corporation by Deed dated October 16, 1969. Boarhead Corporation continues to own the Site today. J-33, Facts Stipulated by All Parties, ¶ 10; J-2, Deed Between Robert and Ruth Buckman and Boarhead Corporation dated October 16, 1969.

6. On or about December 29, 1969 DeRewal incorporated DeRewal Chemical Company, Inc. J-33, Facts Stipulated by All Parties, ¶ 11; J-3, DeRewal Chemical Company, Inc. Certificate of Incorporation dated December 29, 1969.

EPA’s Investigation and Remediation of the Site

7. EPA’s initial response activities were motivated by the history of waste disposal activities and known bulk releases of chemicals at the Site. Trial Transcript, June 23, 2008, 127:6-128:14, 134:1-7 (J. Vandeven).

8. Listing of the Site on the NPL was caused by these documented releases and the potential threat to human health and the environment posed by the levels of organic and inorganic chemicals (including trichloroethylene, 1,1,1-trichloroethane, zinc, chromium, and lead) in groundwater. Trial Transcript, June 23, 2008, 137:3-138:11 (J. Vandeven).

9. A contractor for EPA completed a Preliminary Assessment and Site Investigation of the Site between 1984 and January 1986. The reports of those tasks detailed the presence of a variety of contaminants at the Site. J-33, Facts Stipulated by All Parties, ¶ 12; J-

24, NUS Corporation, 8/22/85, Preliminary Assessment of Boarhead Farms; J-25, NUS Corporation, 1/20/86 Site Inspection of Boarhead Farms.

10. A contractor for EPA conducted a “Remedial Investigation” beginning on or about December 5, 1989, to determine if there were contaminants at the Site that pose a risk to human health and the environment. J-33, Facts Stipulated by All Parties, ¶ 14; J-29, January 1997 Final Remedial Investigation Report (including Appendices A-I).

11. After the investigation, the contractor prepared a “Remedial Investigation Report” for EPA dated January 1997. J-33, Facts Stipulated by All Parties, ¶ 15; J-29, January 1997 Final Remedial Investigation Report (including Appendices A-I).

12. The remedial investigation found dozens of hazardous substances were present in soils, sediments, and groundwater at the Site. J-33, Facts Stipulated by All Parties, ¶ 16; Trial Transcript, June 23, 2008, 156:18-157:15, 182:23-187:17, 151:1-154:21, 163:17-164:4 (J. Vandeven); J-29, January 1997 Final Remedial Investigation Report (including Appendices A-I); and J-30, July 1997 Feasibility Study Report, Figures 1-4, 1-5 and 1-6.

13. A contractor for EPA conducted a “Feasibility Study” to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The contractor prepared a “Feasibility Study Report” dated July 1997. Each alternative addressed both soil and groundwater. J-33, Facts Stipulated by All Parties, ¶ 17; J-30, July 1997 Feasibility Study Report.

14. EPA issued a Proposed Remedial Action Plan for comprehensive site clean-up based upon the conclusions of the Remedial Investigation/Feasibility Study in January

1998. J-33, Facts Stipulated by All Parties, ¶ 18; J-23, USEPA Superfund Program Proposed Plan - Boarhead Farms Site, dated January 1998.

15. Following public notice and comment on the Proposed Remedial Action Plan, EPA issued the Record of Decision (“ROD”) on November 18, 1998. J-33, Facts Stipulated by All Parties, ¶ 19; J-26, USEPA Superfund Record of Decision, dated November 1998.

16. The ROD lists “chemicals of potential concern” (“COPCs”) at the Site, including nine COPCs for surface soil, 53 COPCs for shallow groundwater, 4 COPCs for pond sediments, and 2 COPCs for pond surface water. J-33, Facts Stipulated by All Parties, ¶ 20; J-26, USEPA Superfund Record of Decision, dated November 1998 at Table 7.

17. The ROD elected 7 major remedy components: soil aeration and treatment of VOC hot spots; excavation and offsite disposal of buried drums; groundwater extraction, metals precipitation, and air stripping to reduce concentrations of contaminants in the groundwater to below maximum contaminant levels; the installation of additional monitoring wells to monitor the effectiveness of the remedial action; institutional controls and monitoring to protect the integrity of the remedial action components to ensure continued protectiveness of the remedy; residential water treatment consisting of the continued maintenance of the granular activated carbon filters that were installed on residential wells in the down gradient areas to prevent potential exposure to contaminated groundwater from the Site; and phytoremediation consisting of the performance of treatability studies in the main former disposal areas of the Site to determine whether phytoremediation would be a viable treatment technique for groundwater.

J-33, Facts Stipulated by All Parties, ¶ 21; Trial Transcript, June 23, 2008, 46:24-47:1 (G. Seibel).

18. EPA determined in the ROD that the selected remedy would be protective of human health and the environment and that it would be cost effective. J-33, Facts Stipulated by All Parties, ¶ 22; J-26, USEPA Superfund Record of Decision, dated November 1998 at 1-3.

19. Subsequent to the issuance of the ROD, EPA determined to implement the remedial action described in the ROD in two operable units (“OUs”). EPA determined that, in general, OU-1 would address groundwater extraction, metal precipitation, and air stripping; the installation of additional monitoring wells, implementation of institutional controls and monitoring for OU-1; residential water treatment; and phytoremediation (“OU-1 RD/RA”). EPA determined that, in general, OU-2 would address: soil aeration and treatment of volatile organic compound hotspots; the excavation and off-site disposal of buried drums in contaminated soil; and implementation of institutional controls and monitoring for OU-2 (“OU-2 RD/RA”). J-33, Facts Stipulated by All Parties, ¶ 23.

20. EPA listed the Site on the National Priorities List on March 31, 1989. The listing was due primarily to elevated levels of inorganic and organic contaminants in groundwater. J-33, Facts Stipulated by All Parties, ¶ 13; J-29, January 1997 Final Remedial Investigation Report (including Appendices A-I) at 34; Trial Transcript, June 23, 2008, 137:15-138:11, 142:5-18 (J. Vandeven).

21. EPA conducted many response actions thereafter, including the removal of buried drums and contaminated soils and the draining and removal of tank trucks on the Site. The Army Corps of Engineers also constructed and began operating a groundwater extraction

and treatment system, and EPA installed individual well treatment systems at sixteen area residents. Trial Transcript, June 23, 2008, 155:24-156:17 (J. Vandeven).

Plaintiffs' Settlements with EPA and Continuing Conduct of Remediation

22. Cytec, Ford, and SPS are parties to an Administrative Order for Consent for remedial design, USEPA Docket No. III-2000-002-DC, entered in February 2000 and a Consent Decree entered by this Court on or about September 28, 2000. By entering into these two agreements, Cytec, Ford, and SPS agreed to do the work necessary to perform the OU-1 RD/RA, and to reimburse EPA for its administrative and oversight costs in the future in connection with the OU-1 RD/RA. J-33, Facts Stipulated by All Parties, ¶ 24; J-8, Administrative Order on Consent for Remedial Design, EPA Docket No. III-2000-002-DC; J-6, Consent Decree, filed September 28, 2000.

23. Cytec, Ford, SPS, TI Automotive, and Agere agreed to collectively fund and perform the OU-1 RD/RA, and entered into an agreement with two other entities, NRM Investment Company and Worthington Steel Company - Malvern (collectively the "OU-1 Group") whereby the parties to that agreement agreed to collectively fund and perform the OU-1 RD/RA and to otherwise comply with the OU-1 Consent Decree. J-33, Facts Stipulated by All Parties, ¶ 25.

24. Each member of the OU-1 Group contributes (or has contributed) funds to OU-1 group trust accounts (the "OU-1 Trust Accounts"). J-33, Facts Stipulated by All Parties, ¶ 26.

25. Under the terms of the OU-1 Consent Decree, costs related to activities to perform the OU-1 RD/RA and for the Future Response Costs required by the OU-1 Consent

Decree have been paid for and will be paid for in the future from the OU-1 trust accounts. J-33, Facts Stipulated by All Parties, ¶ 27.

26. The OU-1 Group hired de maximis, inc. to be the “Supervising Contractor” as required by the 2000 Consent Decree. Geoffrey Seibel of de maximis, inc. is the project coordinator for the OU-1 Group. Mr. Seibel and de maximis, inc. later became the project coordinator for the OU-2 Group. de maximis, inc. provides overall project management of the Site remediation. J-33, Facts Stipulated by All Parties, ¶ 28; Trial Transcript, June 23, 2008, 44:23-45:2 (G. Seibel).

27. The OU-1 Group created a Technical Committee comprised of representatives of some of the OU-1 Group members. The Technical Committee supervises and directs the OU-1 work and reviews and approves payment of contractors that do the work. The Technical Committee works closely with de maximis to ensure that the work is completed in accordance with the project documents and EPA’s direction and approvals. The Technical Committee later performed the same functions with respect to the OU-2 work. J-33, Facts Stipulated by All Parties, ¶ 29; Trial Transcript, June 23, 2008, 47:15-48:7 (G. Seibel).

28. de maximis, inc.’s work at the Site requires it to interact with EPA’s remedial project manager for the Site and to seek approval of that work. J-33, Facts Stipulated by All Parties, ¶ 30; Trial Transcript, June 23, 2008, 60:22-62:1, 78:6-13. (G. Seibel).

29. The OU-1 Group assumed responsibility for all future operation and maintenance of the groundwater extraction and treatment system on May 2, 2000. J-33, Facts Stipulated by All Parties, ¶ 31; Trial Transcript, June 23, 2008, 64:15-25, 65:25-66:9 (G. Seibel).

30. The OU-1 Group retained Bigler Associates, Inc. to design and construct modification to the groundwater extraction and treatment system, as required under the ROD. The OU-1 Group submitted a Remedial Design Work Plan, 2001 and a Remedial Design Basis Report that described the removal of the shallow tray air stripper and the addition of an air sparge tank, metals precipitation unit, air phase carbon for off gas treatment, and liquid phase carbon. The work, conducted between January 2002 and May 2002, was documented in an August 20, 2004 Remedial Action Report to EPA. Each of those plans and reports, and the work referenced in those reports, was approved by EPA. J-33, Facts Stipulated by All Parties, ¶ 32; P-231, Operable Unit #1 Remedial Design Work Plan, dated May 2000; P-230, Design Basis Report Groundwater Treatment System 90% Submittal, dated December 2001; P-221, Remedial Action Construction Completion Report, dated 8/20/04.

31. The OU-1 Group also retained Bigler Associates, Inc. to conduct the ongoing operation and maintenance of the treatment plant. Operation and maintenance is being conducted in accordance with the December 2001 Operation and Maintenance Plan. EPA approved that Plan. J-33, Facts Stipulated by All Parties, ¶ 33; P-234, Operation and Maintenance Manual - Wastewater Treatment System.

32. Between July 2001 and August 2001, the OU-1 Group converted the groundwater extraction system from pneumatic to electric to improve the operation of the system and to decrease operation and maintenance cost. This modification was approved by EPA. J-33, Facts Stipulated by All Parties, ¶ 34; Trial Transcript, June 23, 2008, 78:18-80:2 (G. Seibel); P-188, 6/6/01 Letter from Geoffrey Seibel of de maximis to James Harper of USEPA re: Proposal to Modify Groundwater Extraction System and Request to Extend RD/RA Schedule.

33. The OU-1 Group retained Brown and Caldwell to perform the Remedial Design with respect to the balance of the OU-1 work. The OU-1 Group submitted to EPA the May 2000 Remedial Design Work Plan. EPA approved that document. Brown and Caldwell was also retained to provide supporting design services to Bigler Associates for the treatment plan upgrade. J-33, Facts Stipulated by All Parties, ¶ 35; Trial Transcript, June 23, 2008, 68:25-69:13 (G. Seibel); P-231, Operable Unit #1 Remedial Design Work Plan, dated May 2000.

34. The OU-1 Group has been maintaining the residential filter program, required by the ROD, since May 2000. The program is documented in the March 25, 2002 Residential Wells - Operation and Maintenance Plan. EPA approved that plan. J-33, Facts Stipulated by All Parties, ¶ 36; P-222, Final Submittal Residential Wells Operation and Maintenance Plan, dated 3/25/02.

35. The OU-1 Group has since May 2000 conducted regular sampling and reporting of the monitoring well system. This work, required by the ROD, has been done in accordance with the March 2002 Final Long-Term Monitoring and Quality Assurance Plan. EPA approved that plan as well as a modification to the plan dated September 21, 2006. The Group and EPA work together to make modifications to the LTMP in response to data. J-33, Facts Stipulated by All Parties, ¶ 37; P-223, Final Long-Term Monitoring and Quality Assurance Plan, dated March 2002.

36. Pursuant to the 2000 Consent Decree and the ROD, the OU-1 Group conducted an evaluation of the potential use of phytoremediation. The results are documented in the July 2000 Phytoremediation Study. Based on the results of the evaluation, EPA determined that phytoremediation would not effectively aid in groundwater cleanup and the treatability study

required by the ROD was not necessary. EPA approved that study and agreed to defer its final determination on the applicability of phytoremediation until after the OU-2 work was complete. After completion of the OU-2, EPA confirmed that no additional work relative to phytoremediation was necessary. J-33, Facts Stipulated by All Parties, ¶ 38, P-224, Phytoremediation Study, dated July 2000.

37. In November 2000, EPA agreed to defer and combine the OU-1 Institutional Control requirements with the OU-2 Institutional Control requirements. The OU-1 and OU-2 Groups continue to work with the EPA on establishing appropriate Institutional Controls for the Site. J-33, Facts Stipulated by All Parties, ¶ 39.

38. Cytex, Ford, SPS, and TI Automotive are signatories to an Administrative Order on Consent for Remedial Design, EPA Docket No. III-2001-0010-DC effective October 17, 2001 and a Consent Decree entered by this Court on March 14, 2002. By entering into these agreements, those entities agreed to do the work necessary to perform the OU-2 RD/RA at the Site, to reimburse EPA both for \$7,000,000 in response costs incurred and accounted for prior to July 2000, and for an as yet determined amount of response costs incurred subsequent to July 2000, and to reimburse EPA for its future response costs in connection with the OU-2 RD/RA. J-33, Facts Stipulated by All Parties, ¶ 40; J-9, Administrative Order on Consent for Remedial Design, EPA Docket No. III-2001-001-DC; J-7, Consent Decree, filed March 14, 2002.

39. EPA originally demanded \$13,600,000 for its past costs from the parties to the 2002 Consent Decree. Trial Transcript, June 24, 2008, 55:24 (J. Judge); J-18, USEPA 2000 Past Cost Report.

40. EPA advised the parties to the 2002 Consent Decree that, if they did not settle EPA's past cost claim before March 2001 when its new formula for calculating indirect costs would be effective, then EPA would apply the new formula and EPA's demand would increase by two to three million dollars. Trial Transcript, June 24, 2008, 52:21-53:14 (J. Judge).

41. During negotiations for EPA's past cost claim, the four parties to the 2002 Consent Decree took the position that, because they were a small group, they could not fund the entire \$13,600,000 claim. Trial Transcript, June 24, 2008, 55:25-56:5 (J. Judge).

42. The parties to the 2002 Consent Decree ultimately settled EPA's past cost claim for \$7,000,000 plus some additional amount for costs that had not been calculated as of the time of the settlement. Trial Transcript, June 24, 2008, 56:6-12 (J. Judge).

43. Neither EPA nor any of the four parties to the 2002 Consent Decree conducted any itemization of the \$7,000,000 settlement or allocated any specific amounts of the settlement to any specific work or tasks conducted by EPA. Trial Transcript, June 24, 2008, 56:13-57:21 (J. Judge).

44. TI Automotive agreed to participate in the funding of the OU-1 Group work and actively participated in the settlement of the OU-2 Consent Decree. It did so in response to receiving a General/Special Notice Letter from EPA in September 2000. Trial Transcript, June 24, 2008, 56:13-57:21 (J. Judge); Trial Transcript, June 24, 2008, 24:11-25:6 (T. Guerriero).

45. Pursuant to an agreement, the four parties to the 2002 Consent Decree and Agere (the “OU-2 Group”) agreed to collectively fund and perform the OU-2 RD/RA, and contributed funds to OU-2 Group trust accounts. J-33, Facts Stipulated by All Parties, ¶ 41.

46. All costs of the activities to perform the OU-2 RD/RA and to perform the other requirements of the OU-2 Consent Decree have been paid for from the OU-2 trust accounts. J-33, Facts Stipulated by All Parties, ¶ 42.

47. The OU-2 Group retained Brown and Caldwell to complete the remedial design of the OU-2 work, to perform construction quality assurance during the remedial action, and to be the “Supervising Contractor” as required by the 2001 Consent Decree. J-33, Facts Stipulated by All Parties, ¶ 43.

48. The OU-2 Group retained Code Environmental Inc. to do the construction of the OU-2 remedial action. EPA’s contractor provided independent quality assurance oversight of the work. J-33, Facts Stipulated by All Parties, ¶ 44.

49. The OU-2 Group submitted a February 2002 Remedial Design Work Plan, and a November, 2002 Remedial Design Report. Those reports were approved by EPA. The cleanup of contaminated soils and drum removal, required by the ROD, is documented in the May 28, 2004 Remedial Construction Report. EPA approved that report. J-33, Facts Stipulated by All Parties, ¶ 45; P-232, Operable Unit No. 2 Remedial Design Work Plan, dated March 2002; P-225, Remedial Construction Report, dated 5/28/04.

50. In addition to the reports and plans mentioned above, ongoing Site operation and maintenance activities are summarized in progress reports submitted to PADEP and EPA regularly since June 2000. J-33, Facts Stipulated by All Parties, ¶ 46.

51. All remedial activities conducted at the Site by the OU-1 and OU-2 Groups were consistent with the 1998 ROD and subsequent design documents approved by EPA. Construction and monitoring activities were overseen by EPA and its contractors and verified as conforming with the design documents approved by EPA. The QA/QC program was in conformance with EPA standards. J-33, Facts Stipulated by All Parties, ¶ 47.

52. EPA and PADEP conducted a final inspection on September 23, 2003 and determined that the OU-1 and OU-2 Groups conducted the remedy in accordance with the design plans and specifications. The Site achieved construction completion status with the signing by EPA of a November 10, 2003 Preliminary Close-out Report. J-33, Facts Stipulated by All Parties, ¶ 48; J-20, USEPA Preliminary Close Out Report, dated 11/10/03.

53. EPA conducted a Five-Year Review from November 2006 through August 2007. It issued a Five-Year Review Report on August 22, 2007. EPA found therein that the remedy has been constructed in accordance with the requirements of the ROD and is functioning as designed and intended. J-33, Facts Stipulated by All Parties, ¶ 49; J-28, USEPA Five Year Review Report, dated 8/22/07.

Response Costs incurred by Plaintiffs

54. Plaintiffs have incurred \$13,678,378.55 in past costs as of December 31, 2007. The following breaks down these costs by category:

OU-1 RD/RA	\$3,356,456.00
EPA Oversight for OU-1	\$288,040.71
OU-2 RD/RA	\$2,284,705.41
EPA Oversight for OU-2	\$325,981.34
EPA past costs	\$7,423,195.09
Total	\$13,678,378.55

J-33, Facts Stipulated by All Parties, ¶¶ 55, 56, 57, 58 and 59.

55. Plaintiffs will continue to incur response costs for an undefined future period of time. Trial Transcript, June 23, 2008, 107:21-109:17 (G. Seibel).

56. Mr. Seibel and Mr. Coslett review bills from remediation consultants and contractors and make recommendations to the OU-1 and OU-2 Groups regarding payment. They oversee the work reflected in those bills, which are for work performed in the investigation, remediation, monitoring and maintenance of the Site. J-33, Facts Stipulated by All Parties, ¶ 50.

57. The bills are then forwarded by de maximis to two members of the Technical Committee. Those individuals review the bills and de maximis's recommendations and make a final determination regarding the payment of the invoices. If approved, they forward their payment recommendations to common counsel for payment. J-33, Facts Stipulated by All Parties, ¶ 51.

58. Timothy Bergere, Esquire, a lawyer at Montgomery, McCracken & Rhoads, has, since August 2003, been common counsel to the OU-1 and OU-2 Groups with respect to the work done at the Site by those groups. J-33, Facts Stipulated by All Parties, ¶ 52.

59. Mr. Bergere reviews all payment recommendations and arranges for them to be paid from the OU-1 and OU-2 trust accounts. Mr. Berger also maintains the cash flow records of the groups. Mr. Bergere also maintains the OU-1 and OU-2 trust accounts. J-33, Facts Stipulated by All Parties, ¶ 53.

60. All of the costs billed to the OU-1 and OU-2 Groups that de maximis reviewed and submitted were for work performed in the investigation and clean-up of the Site. J-33, Facts Stipulated by All Parties, ¶ 54; Trial Transcript, June 23, 2008, 125:9-20 (J. Vandeven).

61. The costs incurred by the OU-1 and OU-2 Groups were necessary to comply with the requirements of the ROD and were consistent with the National Contingency Plan. J-33, Facts Stipulated by All Parties, ¶ 60; Trial Transcript, June 23, 2008, 125:14-18 (J. Vandeven).

62. Plaintiff TI Automotive is the successor by merger to Bundy Corporation, an entity that EPA alleged was a potentially responsible for the cleanup at the Site. Trial Transcript, June 24, 2008, 24:19-23, 25:7-26:23 (T. Guerriero).

63. Bundy Corporation changed its name on or about November 1999 to TI Group Automotive Systems Corporation. Trial Transcript, June 24, 2008, 23:4-22 (T. Guerriero); P-154, Certificate of Amendment to Articles of Incorporation, filed 10/19/99.

64. In 1999, TI Group, PLC, a United Kingdom corporation, was the ultimate parent of TI Group Automotive Systems Corporation. Trial Transcript, June 24, 2008, 27:6-8 (T. Guerriero).

65. In or about December, 2000 TI Group, PLC merged into Smiths Industries, PLC, a United Kingdom corporation, and the merged entity became Smiths Group, PLC (“Smiths”), which became the ultimate parent of TI Group Automotive Systems Corporation. Trial Transcript, June 24, 2008, 27:13-24 (T. Guerriero).

66. Smiths was, prior to April 25, 2001, the ultimate parent of TI Group Automotive Systems Corporation. Pursuant to an April 25, 2001 Transfer Agreement, Smiths agreed to sell the shares of TI Group Automotive Systems Corporation (and other related companies) to 329th Shelf Investment Company Limited. Smiths agreed, as part of that transaction, to indemnify TI Group Automotive Systems Corporation and 329th Shelf Investment Company Limited with respect to any liabilities arising as a result of or in connection with the Site. Trial Transcript, June 24, 2008, 28:16-29:23 (T. Guerriero); P-157, Transfer Agreement Between Smiths Group, plc and 329th Shelf Investment Company Limited, dated 4/25/01.

67. On or about June 8, 2001, TI Group Automotive Systems L.L.C. was incorporated as a limited liability company in the State of Delaware. On or about June 25, 2001, TI Group Automotive Systems Corporation was merged into TI Group Automotive Systems L.L.C. Trial Transcript, June 24, 2008, 25:7-26:23 (T. Guerriero); P-155, Certificate of Formation of TI Group Automotive Systems, L.L.C., dated 6/8/01; P-156, Certificate of Merger of TI Group Automotive Systems Corporation with and into TI Group Automotive Systems, L.L.C., dated 6/25/01.

68. Since Smiths conveyed the shares of TI Automotive to 329th Shelf Investment Company Limited, TI Automotive forwarded assessments and invoices for costs related to the Site, including OU1-RD/RA, OU-2 RD/RA and EPA past and oversight costs, to

Smiths to be paid by Smiths pursuant to the April 25, 2001 Transfer Agreement. Trial Transcript, June 24, 2008, 30:3-23 (T. Guerriero).

69. TI Automotive has agreed with Smiths that it will seek to recover in this action and to repay to Smiths all sums paid by Smiths on TI Automotive's behalf. Trial Transcript, June 24, 2008, 31:21-32:7 (T. Guerriero); Trial Transcript, June 24, 2008, 41:6-11 (W. Orme).

70. Smiths has caused its subsidiaries, Smiths Group Services Corp. and Smiths Group North America, Inc., to transfer funds into the OU-1 and OU-2 group trust accounts on behalf of TI Automotive and with respect to TI Automotive's obligations to the OU-1 and OU-2 groups, and with respect to the 2001 Consent Decree. Trial Transcript, June 24, 2008, 42:6-9, 45:12-23 (W. Orme).

71. A portion of the proceeds of the settlement between Plaintiffs and Techalloy were distributed to Cytec, Ford, SPS, and TI Automotive. TI Automotive's share of the proceeds of that settlement were forwarded by TI Automotive to Smiths Group Services Corporation. Specifically, on or about May 10, 2007, TI Automotive's portion of that settlement payment was distributed to TI Automotive by counsel for Plaintiffs. TI Automotive then paid those proceeds to Smith's designee, Smiths Group Services Corporation. Trial Transcript, June 24, 2008, 32:14-35:25 (T. Guerriero); Trial Transcript, June 24, 2008, 46:2-47:5 (W. Orme); P-158, Copy of settlement check payable to TI Group Automotive Systems, L.L.C., dated 5/8/07, email correspondence from Lynne Pawlak of TI Automotive to Ralph Kessler, Esq, dated 5/11/07 and Ralph Kessler's reply thereto, and letter from Ralph Kessler to Walter Orme dated 5/23/07.

72. The proceeds of all earlier settlements between Plaintiffs and other settling defendants were held in a trust account of counsel for Plaintiffs and disbursed to pay invoices to Plaintiffs for the fees and costs of this litigation that would have otherwise been paid by Smiths Group, PLC on behalf of TI. Trial Transcript, June 24, 2008, 32:19-23 (T. Guerriero).

73. TI Automotive retains the obligations to pay for the OU-1 and OU-2 work and carries a reserve related to those obligations in its parent company accounts. Trial Transcript, June 24, 2008, 30:24-31:24 (T. Guerriero).

74. If Smiths ceased making payments into the OU-1 and OU-2 group trust accounts on behalf of TI Automotive with respect to TI Automotive's obligations to the OU-1 and OU-2 groups and under the 2001 Consent Decree, TI Automotive would initiate a breach of contract claim against Smiths for Smiths' failure to fulfill its obligations under the April 25, 2001 Transfer Agreement. Trial Transcript, June 24, 2008, 31:12-20 (T. Guerriero).

DeRewal Chemical Company's Waste Disposal Practices in the 1970s

75. The record evidence in this case proves that DCC consistently used one primary disposal location for its customers' wastes at any given time. When government authorities became aware of DCC's illegal dumping at a particular location, DCC acquired access to another location to dispose of its customers' waste. Trial Transcript, June 25, 2008, 56:19-58:4 (F. DeRewal, Jr.).

76. Freddie DeRewal, Bruce DeRewal, John Barsum, Jeff Shaak, John Bean and June Stephens were truck drivers for DCC. Trial Transcript, June 30, 2008, 19:16-18 (F. DeRewal); Trial Transcript, June 25, 2008, 47:9-12 (B. DeRewal); Trial Transcript, June 30,

2008, 71:6-16 (J. Barsum); Trial Transcript, June 25, 2008, 100:7-10 (J. Bean); Trial Transcript, June 25, 2008, 110:14-16 (J. Shaak); June Stephens Dep. at 22:19-23:8.

77. Ed Cypecki was also a DCC driver during the time that Bruce DeRewal, Freddie DeRewal and John Bean drove a truck for DCC and was driving for DCC when Jeff Shaak started driving a truck for DCC in the early 1970s. Trial Transcript, June 25, 2008, 59:5-7 (B. DeRewal); Trial Transcript, June 25, 2008, 104:8-15 (J. Bean); Trial Transcript, June 25, 2008, 110:1-5, 119:13-20.(J. Shaak); Trial Transcript, June 30, 2008, 20:17-23 (F. DeRewal).

78. Richie Minthorn was also a DCC truck driver during the time that Bruce DeRewal, John Bean, Jeff Shaak and Freddie DeRewal drove a truck for DCC. Trial Transcript, June 25, 2008, 58:23-59:4 (B. DeRewal); Trial Transcript, June 25, 2008 104:1-5 (J. Bean); Trial Transcript, June 25, 2008, 110:6-10 (J. Shaak); Trial Transcript, June 30, 2008, 20:13-16 (F. DeRewal).

79. Mr. Cypecki and Mr. Minthorn disposed of the DCC customer wastes in the same disposal sites as did the other DCC drivers in each time period.

Pre-Ontario Period

80. 99% of all of the waste handled by DCC from the time that waste disposal operations commenced at the Site until the opening of DCC's Ontario Street operation in Philadelphia on December 1, 1973 (the "Pre-Ontario period") was disposed of at the Site (all but 4-6 loads to the Site). Proposed Findings of Fact ¶¶ 81-102.

81. Government records show that DCC disposed of its customers' wastes at the Site since at least April 1972 and continued to use the Site as its primary disposal location

until heightened government enforcement activity occurred at the Site in late 1973. Proposed Findings of Fact ¶ 82-89.

82. The Pennsylvania State Police reported on April 26, 1972 a complaint of dead fish, dead plant life, and foaming along the edges of the stream on property adjacent to the Site. The complaint alleged that the pollution was caused by dumping of acid into the stream from tank trucks at the Site. P-4, Pennsylvania State Police Investigation Report dated April 26, 1972.

83. The Bucks County Department of Health ("BCDOH") inspected the Site on February 14, 1973 noting large tanks, an open trailer with barrels, rubber-lined tankers, and full barrels standing on the ground. P-5, BCDOH Waste Discharge Inspection Report and Site Map dated February 14, 1973.

84. On March 5, 1973 BCDOH conducted a follow-up inspection pursuant to a search warrant, and observed liquid and solid waste spilled on the ground and runoff from several locations carrying wastes to an unnamed tributary of the Delaware River. A lagoon was discovered approximately 10 feet square by two feet deep and containing an unknown liquid waste. P-5, March 7, 1973 and March 12, 1973 BCDOH Memoranda; P-7, BCDOH Waste Discharge Inspection Report dated March 5, 1973.

85. On October 31, 1973, in response to a telephone complaint, the BCDOH observed discoloration, heavy foaming and dead fish in a stream near the Site and traced the pollution in the stream back to the Site. Trial Transcript, June 25, 2008, 23:25-24:15 (P. Noll).

86. The BCDOH determined that the pollution was the result of a spill of ferrous chloride and ordered that lime be spread to neutralize the acidic conditions caused by the spill. Trial Transcript, June 25, 2008, 24:16-20, 25:22-26:2 (P. Noll); P-9, BCDOH Memorandum dated December 20, 1973; Manfred DeRewal Dep. at 91:9-24.

87. The Pennsylvania Department of Environmental Resources ("PADER") issued an order to Boarhead Corporation on November 2, 1973 requiring it to take all necessary steps to neutralize acidic conditions observed at the Site by the BCDOH on October 31, 1973, prevent injury to property and downstream users of waters flowing from the Site, and remove residual pollutants from Site and waters onto and migrating off of the Site. P-10, PADER November 2, 1973 Order to Boarhead Corporation.

88. The BCDOH conducted at least ten follow up inspections of the Site after the October 31, 2008 incident. Trial Transcript, June 25, 2008, 32:7-21 (P. Noll); P-11, BCDOH Waste Discharge Inspection Report dated November 5, 1973; P-12, BCDOH Waste Discharge Inspection Report dated November 23, 1973; P-13, BCDOH Memorandum dated January 8, 1974.

89. BCDOH's investigation of the Site on October 31, 2008 and its multiple follow-up inspections shortly after that time caused DCC to cease using the Site as its primary disposal location and to lease the Ontario Street location to replace the Site as its primary disposal location. Trial Transcript, June 30, 2008, 57:4-16, 63:22-63:1 (F. DeRewal, Jr.); Trial Transcript, June 30, 2008, 73:8-14 (J. Barsum); Manfred DeRewal Dep. at 98:21-25.

90. All of the living truck drivers that were available to testify at trial or whose depositions were made a part of the record in this action took virtually all of the waste that

they picked up from DCC customers to the Site until the time that DCC leased the Ontario Street location. Trial Transcript, June 30, 2008, 22:17-20 (F. DeRewal, Jr.); Trial Transcript, June 30, 2008, 72:25-73:2 (J. Barsum); Trial Transcript, June 25, 2008, 50:3-51:5 (B. DeRewal); Trial Transcript, June 25, 2008, 115:14-20 (J. Shaak); Trial Transcript, June 25, 2008, 105:19-106:2; 106:24-107:11 (J. Bean); Stephens Dep. at 170:16-171:2.

91. Freddie DeRewal started driving a truck for DCC no later than September 1972 when he obtained his drivers license. Trial Transcript, June 30, 2008, 19:16-25.

92. Freddie DeRewal took all of the waste that he picked up from customers before the Ontario Street location opened to the Site except for a few loads to a facility in Frenchtown. Trial Transcript, June 30, 2008, 22:17-23, 29:22-30:25 (F. DeRewal, Jr.).

93. Bruce DeRewal started driving a truck for DCC in the early 1970s. Trial Transcript, June 25, 2008, 47:13-14 (B. DeRewal).

94. During the first couple of years that Bruce DeRewal drove a truck for DCC, all of the DCC customer waste that he picked up was disposed of at the Site. Trial Transcript, June 25, 2008, 50:3-51:5 (B. DeRewal).

95. John Barsum started driving a truck for DCC during the winter in the early 1970s. Trial Transcript, June 30, 2008, 70:11-13, 71:6-19 (J. Barsum).

96. John Barsum took every load of DCC customer waste to the Site for disposal until the heightened regulatory activity began at the Site in late 1973. Trial Transcript, June 30, 2008, 72:25-73:22 (J. Barsum).

97. Jeff Shaak worked for DCC in two periods of time. The first period of time that Jeff Shaak worked for DCC was before DCC leased the Ontario Street location. Trial Transcript, June 25, 2008, 113:14-19 (J. Shaak).

98. During the first period of time that Jeff Shaak worked for DCC, the one and only place that Jeff Shaak took waste that he picked up from DCC customers was to the Site. Trial Transcript, June 25, 2008, 115:14-20 (J. Shaak).

99. John Bean was a part-time driver for DCC before DCC began using the Ontario Street location for disposal of its customers' wastes. Trial Transcript, June 25, 2008, 101:17-102:2 (J. Bean).

100. The only location that John Bean took DCC customers' wastes was to the Site. Trial Transcript, June 25, 2008, 105:19-106:2, 106:24-107:11 (J. Bean).

101. June Stephens started driving a truck for DCC in the early 1970s before the Ontario Street opened up. Stephens Dep. at 87:2-22.

102. The only disposal location Ms. Stephens used during the Pre-Ontario period was the Site. Stephens Dep. at 170:16-171-2.

Carpenter Technology Corporation Waste Hauled by DCC during the Pre-Ontario Period

103. Carpenter Technology Corporation ("Carpenter") is a Delaware corporation with its principal place of business in Reading, Pennsylvania. J-33, Facts Stipulated By All Parties, ¶ 71.

104. John Adams was employed by Carpenter in its engineering department from November 1952 to January 1986. J-33, Facts Stipulated By All Parties, ¶ 73; Adams Dep. at 12:21-13:3; 14:1-5.

105. John Adams' immediate supervisors were William Dinkle and Harold Miller. Adam Dep. at 29:5-19.

106. Mr. Adams was in charge of the "cost center" with respect to the waste water treatment plant. One of the purposes of that cost center was to track all of the costs of disposing of Carpenter's waste acids. Adams Dep. at 21:6-24:23.

107. David Mann was employed by Carpenter in its engineering department from June 24, 1968 to March 18, 1977. J-33, Facts Stipulated By All Parties, ¶ 72; Trial Transcript, June 26, 2008, 4:11-13, (Mann).

108. Mr. Adams was Mr. Mann's supervisor. Adams Dep. at 28:10-29:7.

109. Mr. Mann and Mr. Adams were each involved in the decisions of Carpenter's purchasing department with respect to the purchase of disposal services for Carpenter's waste pickle liquors. Trial Transcript, June 24, 2008, 105:5-18 (Cheri).

110. Carpenter (through Mr. Mann, Mr. Adams, and the purchasing department) knew that Fred DeRewal was associated with Revere. Trial Transcript, June 26, 2008, 33:20-34:10;41:13-47:17 (Mann); P-42, Handwritten Notes at 1, 5-6; P-43, 7/17/69 Memorandum.

111. Mr. Mann met Fred DeRewal at the Revere facility. Trial Transcript, June 26, 2008, 34:11-17 (Mann); P-43, 7/17/69 Memorandum.

112. Mr. Adams learned in July 1969 from the regulatory authorities in a telephone conversation that Revere was in trouble because of subsurface pollution at the Revere site. He also learned that Chemlime, another waste acid hauler used by Carpenter, was in trouble for dumping waste acid into an abandoned slag pit. Adams Dep. at 82:14-85:20; 86-87; Trial Transcript, July 2, 2008, 107:23-108:14 (Summation); P-44, 7/8/69 Handwritten Telephone Note.

113. Mr. Adams specifically made a record of the telephone conversation, even though he did not typically make such notes, because he felt that it was important to record the call in the file. He relayed the substance of the telephone call to Harold Miller and to the purchasing department because they were responsible for relationships with Carpenter's hauling companies. Adams Dep. at 86:10-87:10.

114. Carpenter's normal business procedure was that each person listed on a letter or memo as a "cc" received a copy of the memo or letter. Thus, every Carpenter employee listed as a "cc" on a Carpenter letter and/or memorandum knew at the time that Manfred DeRewal and Chemlime were engaged in polluting activities. Adams Dep. at 77:25-78:8; Trial Transcript, June 26, 2008, 17:9-15 (Mann).

115. Mr. Mann learned in February 1970 that Revere had ended its operations in January 1970 because of pollution citations by the regulatory authorities. Mr. Mann informed many people, including Mr. Adams and two members of Carpenter's purchasing department, Mr.

Nahm and Mr. Freehafer, of this fact. Trial Transcript, June 26, 2008, 47:25-51:25 (Mann); P-45, 2/25/70 Memorandum.

116. Carpenter nevertheless hired DeRewal again in the form of DeRewal Chemical Company on June 12, 1973 to pick up and dispose of Carpenter's waste hydrochloric acid pickle liquor. Trial Transcript, June 24, 2008, 135:22-136:7 (Cheri); P-34, 6/12/73 contract and legal department cover letter; Trial Transcript, July 2, 2008, 136:3-6 (Summation); Manfred DeRewal Dep. at 143:16-25. DCC did not take any of Carpenter wastes to Sylvan Chemical Corporation for recycling. Manfred DeRewal Dep. at 138:15-140:11.

117. Carpenter conceded at trial that it knew DeRewal was a polluter when it hired DeRewal again in 1973. Trial Transcript, July 2, 2008, 135:22-136:7 (Summation).

118. DeRewal was charging Carpenter significantly less money than the other waste acid disposal services that were being used by Carpenter in that same timeframe from which the Court infers that Carpenter was on notice that DeRewal would not be legally and safely disposing of its wastes. P-39, 10/8/74 Memo at 1.

119. This new relationship arose out of a proposal from Fred DeRewal dated November of 1972. P-315, 11/14/72 Letter from DeRewal to Strocka at Carpenter Technology; Manfred DeRewal Dep. at 137:10-15.

120. A Carpenter employee metered the flow and recorded the flows on a daily log as tanker wagons of Carpenter's waste were loaded onto a hauling company's truck. The log sheets went to Mr. Reger on a daily basis so that Mr. Reger could accurately track the gallons

and costs associated with those gallons. Adams Dep. at 22:14-26:11; Trial Transcript, June 24, 2008, 128:12-25 (Elbert); Trial Transcript, June 30, 2008, 32:20-33:4 (F. DeRewal).

121. Mr. Cheri worked for Carpenter Technology in Reading from some time in 1956 until April 1, 1999. Trial Transcript, June 24, 2008, 104:1-4 (Cheri).

122. Mr. Cheri took over the job of hiring companies to remove waste acids from Carpenter's facility and continued to do so until the end of the 1970s. Trial Transcript, June 24, 2008, 104:20-105:4 (Cheri).

123. Carpenter used blanket purchase orders covering DeRewal's services. Trial Transcript, June 24, 2008, 108:6-109:18 (Cheri); P-35, 12/20/73 Purchase Order.

124. Mr. Cheri kept track of the purchases under blanket purchase orders by comparing the actual invoices issued by the vendor with the receiving documents from the receiving department. Trial Transcript, June 24, 2008, 110: 14-20 (Cheri).

125. Mr. Cheri created P-38 to post the cost and gallonage of Carpenter's waste acids hauled by DeRewal as part of his job and as part of Carpenter's business practices. Trial Transcript, June 24, 2008, 110: 21-113:23 (Cheri); P-38, DeRewal Chemical Co. 80#228 Chart.

126. Mr. Reger worked for Carpenter Technology from January of 1959 through 1985. Reger Dep. at 9:4-7.

127. Mr. Reger created P-36 and P-37 as part of his job responsibility of tracking contemporaneously the volumes of waste acid removed from Carpenter's facility and the price Carpenter paid for those services. Reger Dep. at 18:12-16:24.

128. Mr. Reger created P-36 and P-37 by taking the information directly off of the purchasing invoices he received from the purchasing department for the purpose of creating the charts. Reger Dep. at 16:9-17:4.

129. It was Mr. Reger's job to create the charts, which charts were maintained in the regular course of Carpenter's business. Reger Dep. at 17:22-18:22; 20:23-21:24. P-36 and P-37 deal only with waste acid removal. Reger Dep. at 23:14-25.

130. Carpenter does not dispute that the wastes reflected on its records with respect to DCC was in fact picked up by DeRewal. Trial Transcript, July 2, 2008, 86:21-23 (Summation).

131. Carpenter conceded at trial that DCC did not treat Carpenter any differently from its other customers with respect to where DCC disposed of those wastes. Trial Transcript, July 2, 2008, 86:21-23 (Summation).

132. When Freddie DeRewal first picked up waste from Carpenter, the Ontario Street was not opened. Freddie disposed of all of the Carpenter loads of waste before Ontario Street opened at the Site. Trial Transcript, June 30, 2008, 34:7-12 (F. DeRewal, Jr.).

133. Freddie DeRewal estimated that he picked up tank wagon loads of waste from Carpenter on 40 to 60 occasions and that the majority of these loads were disposed of at the Site. Trial Transcript, June 30, 2008, 34:13-15, 36:21-25 (F. DeRewal, Jr.).

134. Freddie DeRewal disposed of Carpenter's waste in an area off an access road from Lonely Cottage Road and the waste would migrate down a steep slope towards a

swamp at the Site. Trial Transcript, June 30, 2008, 23:13-24:2, 26:11-21, 26:25-27:21, 35:12-36:9 (F. DeRewal).

135. The area where Freddie disposed of Carpenter's waste at the Site is the same area where Peter Noll observed ferrous chloride migrating towards the swamp at the Site on October 31, 1973. Trial Transcript, June 25, 2008, 25:24-25, 26:9-12 (P. Noll).

136. Bruce DeRewal picked up tank wagon loads of waste from Carpenter on many occasions. The first time that Bruce DeRewal picked up waste from Carpenter was before Ontario Street opened. Trial Transcript, June 30, 2008, 33:20-34:9 (F. DeRewal).

137. June Stephens picked up waste from Carpenter and took it to the Site. Stephens Dep. at 95:15-98:22.

138. DCC hauled 916,114 gallons of waste hydrochloric acid from Carpenter's Reading facility between June 20, 1973 and December 1, 1973. P-36, Waste Acid Removal Chart (first six entries under "DeRewal").

139. 99% of the 916,114 gallons of waste hydrochloric acid that DCC picked up from Carpenter's Reading facility between June 20, 1973 and December 1, 1973, which is 906,953 gallons, was disposed of at the Site.

Plaintiffs' and Settled Parties' Waste Hauled by DCC during the Pre-Ontario Period

140. The following shows the volumes of waste that were picked up by DCC from the Plaintiffs and the Settled Parties during the Pre-Ontario Period, 99% of which were disposed of at the Site:

DCC customer	Volume of Waste (in Gallons) Picked up by DCC	Volume of Waste (in Gallons) Disposed of at the Site
Ford	38,940	38,551
Cytec	0	
SPS	21,991	21,771
TI Automotive	0	
Agere Systems, Inc.	0	
Techalloy	229,067	226,776
Flexible Circuits	33,798	33,460
Etched Circuits	16,905	16,736
Plymouth Tube Company	16,104	15,943
Novartis	0	
U.S. Navy	2,390	
Bostik	0	
Simon Wrecking		
Quickline	525	520
Ashland Chemical Company	0	
Diaz Chemical Corporation	0	
Unisys	3,465	3,430
Rohm and Haas	0	
Thomas & Betts	0	

J-34, Supplemental Facts Stipulated by All Parties; P-329, Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc. ¶ 5; J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

141. All of these wastes contained at least some CERCLA hazardous substances. J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

142. 8,158 gallons of waste from Handy & Harman Tube Company were disposed of at the Site. P-329, Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc., ¶ 1, 2.

143. This waste contained at least some CERCLA hazardous substances. P-336, Supplemental Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc.

144. There is no evidence that DCC picked up any waste from NRM Investment Company during the Pre-Ontario Period.

145. The total volume of waste disposed of at the Site during the Pre-Ontario Period was 1,272,298 gallons.

The Ontario Period

146. 15% of all of the waste handled by DCC after the opening of DCC's Ontario Street operation on December 1, 1973 until the closing of Ontario Street on or before June 30, 1975 was disposed at the Site. Proposed Findings of Fact ¶ 147-160.

147. DeRewal entered into a lease for a one-story building at 3013-31 East Ontario Street in Philadelphia on November 5, 1973. Possession was permitted under the Lease on December 1, 1973. J-33, Facts Stipulated By All Parties, ¶ 62.

148. Ontario Street was a warehouse about two blocks from the Delaware River. J-33, Facts Stipulated By All Parties, ¶ 63.

149. DCC dumped wastes down the sewer at Ontario Street and used Ontario Street as its primary disposal location until the Philadelphia Water Department severed and

sealed the lateral connection on June 13, 1975. Trial Transcript, June 30, 2008, 37:3-39:3 (F. DeRewal, Jr.).

150. On September 24, 1974, the Water Department wrote to DeRewal about his “spent chromic acid transfer operations.” The Water Department directed DeRewal to install a limestone interceptor at the facility and a two compartment oil inceptor necessary to prevent oil discharges to the city sewer system.” J-33, Facts Stipulated By All Parties, ¶ 64.

151. The Water Department again wrote to DeRewal and to his landlord on June 2, 1975. This letter noted various deficiencies in DCC’s operation of the Ontario Street Site and informed DCC that it planned to terminate both sewer and water services to the facility to end those operations. J-33, Facts Stipulated By All Parties, ¶ 65.

152. The Water Department plugged the lateral connection between June 2, 1975 and June 13, 1975. J-33, Facts Stipulated By All Parties, ¶ 66.

153. The Water Department severed and sealed the lateral on June 13, 1975. J-33, Facts Stipulated By All Parties, ¶ 67.

154. DCC stopped using the Ontario Street location when its polluting activities became known to the Philadelphia Water Department. Manfred DeRewal Dep. at 111:20-112:12, 113:16-114:13.

155. DCC also disposed of waste at the Site during the Ontario period. Government records show that DCC continued to dispose of at least some of its customers’ wastes at the Site during the Ontario Period. Proposed Findings of Fact ¶ 157-158.

156. The BCDOH observed on approximately April 25, 1974 at the Site that there was foaming in the swamp that was discharging to downstream waters. It is also noted that a large part of the swamp remained soaked with untreated waste and that there was a puddle of unknown orange substance near old tanks and trucks on the Site. P-20, BCDOH Waste Discharge Inspection Report dated April 25, 1974.

157. BCDOH found in approximately February 26, 1975 that the pollution problems at the Site had not been corrected, noted an overflowing collection pit, a parked flat bed trailer containing barrels marked "acid," and a parked trailer with damaged drums of dry chemicals. P-22, BCDOH Waste Discharge Inspection Report dated February 26, 1975.

158. Some truck drivers continued to take waste to the Site even after DCC started using Ontario Street for disposal of its customers' wastes. Proposed Findings of Fact ¶ 159-160.

159. June Stephens took all of the DCC customers' wastes she hauled to the Site during the Ontario Period except for two or three loads. Stephens Dep. at 24:1-29:5; 170:1-171:11.

160. John Bean never took any DCC customer waste to any location other than the Site. Trial Transcript, June 25, 2008, 107:5-11, 105:23-106:2 (J. Bean).

Carpenter Technology Corporation Waste Hauled by DCC during the Ontario Period

161. Bruce DeRewal picked up tank wagon loads of waste from Carpenter four times a day for some months. After Ontario Street opened, Bruce DeRewal disposed of a load of

Carpenter's waste at the Site at least once a week. Trial Transcript, June 25, 2008, 56:13-24 (B. DeRewal).

162. June Stephens picked up waste from Carpenter and took it to the Site. Stephens Dep. at 95:15-98:22.

163. DCC hauled 816,658 gallons of waste hydrochloric acid from Carpenter's Reading facility between December 1, 1973 and June 1974. P-36, Waste Acid Removal Chart ("December" volume); P-38, DeRewal Chemical Co. 80#228 Chart.

164. 15% of the 816,658 gallons of waste hydrochloric acid that DCC picked up from Carpenter's Reading facility between December 1, 1973 and June 1974, which is 122,499 gallons, was disposed of at the Site.

Plaintiffs' and Settled Parties' Waste Hauled by DCC during the Ontario Period

165. The following shows the volumes of waste that were picked up by DCC from the Plaintiffs and the Settled Parties during the Ontario Period, 15% of which were disposed of at the Site:

DCC customer	Volume of Waste (in Gallons) Picked up by DCC	Volume of Waste (in Gallons) Disposed of at the Site
Ford	0	0
Cytec	193,000	28,950
SPS	24,475	3,671
TI Automotive	0	0
Agere Systems, Inc.	0	0
Techalloy	0	0
Flexible Circuits	100,056	15,008
Etched Circuits	23,213	3,482

Plymouth Tube Company	11,667	1,750
Novartis	0	0
U.S. Navy	0	0
Bostik	0	0
Simon Wrecking	0	0
Quickline	2,261	339
Ashland Chemical Company	0	0
Diaz Chemical Corporation	0	0
Unisys	0	0
Rohm and Haas	0	0
Thomas & Betts	0	0

J-34, Supplemental Facts Stipulated by All Parties; P-329, Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc., ¶ 5; J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

166. All of these wastes contained at least some CERCLA hazardous substances. J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

167. NRM Investment Company (“NRM”) is a Pennsylvania Corporation with its principal place of business in Rosemont, Pennsylvania. J-33, Facts Stipulated by All Parties ¶ 83.

168. The parties did not stipulate to any volume of waste picked up from NRM by DCC. There is no record evidence of any specific volume of waste picked up by DCC from NRM during the Ontario Period.

169. In May 1974 NRM contracted with Marvin Jonas for Jonas to remove, transport, and dispose of NRM's waste pickle liquor from NRM's Malvern, Pennsylvania facility. J-33, Facts Stipulated by All Parties ¶ 85.

170. DCC began hauling NRM waste approximately a year before DCC began billing NRM directly. Manfred DeRewal Dep. at 159:1-15.

171. Freddie DeRewal picked up waste from NRM. DCC was using the Ontario Street location for disposal of its customers' waste the first time that Freddie picked up waste from NRM. Trial Transcript, June 30, 2008, 40:24-41:1 (F. DeRewal, Jr.).

172. Freddie DeRewal disposed of all of the NRM waste that he picked up during the Ontario Street period at the Ontario Street location. Trial Transcript, June 30, 2008, 41:5-7 (F. DeRewal, Jr.).

173. Each load of waste that Bruce DeRewal picked up from NRM was disposed of at Ontario Street. Trial Transcript, June 25, 2008, 59:15-23 (B. DeRewal).

174. John Barsum picked up waste from NRM. John Barsum took all of the waste that he picked up from NRM to Ontario Street for disposal. Trial Transcript, June 30, 2008, 73:23-74:1 (J. Barsum).

175. June Stephens was unclear whether she picked up waste from NRM while working for DCC or whether she went there in a later time period to pick up product. Stephens Dep. at 90:1-93:4.

176. John Bean did not testify to picking up waste from NRM ever. Trial Transcript, June 25, 2008, 107:12-14 (J. Bean).

177. The total volume of waste disposed of at the Site during the Ontario Period was 175,700 gallons.

The Gap Period

178. 65% of all of the waste handled by DCC between the closing of DCC's Ontario Street operation and DCC's use of the Wissinoming Industrial Park to dispose of its customers' waste (the "Gap period") was disposed at the Site. Proposed Findings of Fact ¶ 179-182.

179. For one to two months after Ontario Street was shut down, DCC did not have regular access to a disposal location it controlled except for the Site. Trial Transcript, June 30, 2008, 58:1-8 (F. DeRewal, Jr.).

180. Freddie DeRewal took most of the waste that he picked up from DCC customers to the Site during the Gap period. Trial Transcript, June 30, 2008, 38:24-39:3 (F. DeRewal, Jr.).

181. The only locations to which June Stephens ever took DCC customer wastes were the Site, Ontario Street, and Wissinoming. Stephens Dep. at 24:1-29:5; 170:1-171:11.

182. John Bean never took any DCC customer waste to any location other than the Site. Trial Transcript, June 25, 2008, 107:5-11, 105:23-106:2 (J. Bean).

Plaintiffs' and Settled Parties' Waste Hauled by DCC during the Gap Period

183. The parties stipulated to the volume of waste picked up by DCC from the Plaintiffs and Settled Parties over an eleven month period from July 1, 1975 to June 1, 1976. The Court infers that the volume of waste picked up over this eleven month period was constant and that a monthly average may be determined. The volumes of Plaintiffs' and Settled Parties' waste picked up by DCC during the two month Gap Period are calculated by multiplying the monthly average by 2. J-34, Supplemental Facts Stipulated by All Parties.

184. The following shows the volumes of waste that were picked up by DCC from the Plaintiffs and the Settled Parties during the Gap Period, 65% of which were disposed of at the Site:

DCC customer	Volume of Waste (in Gallons) Picked up by DCC	Volume of Waste (in Gallons) Disposed of at the Site
Ford	0	0
Cytec	0	0
SPS	2,280	1,482
TI Automotive	0	0
Agere Systems, Inc.	0	0
Techalloy	0	0
Flexible Circuits	2,871	1,866
Etched Circuits	2,525	1,641
Plymouth Tube Company	812	528
Novartis	0	0
U.S. Navy	0	0
Bostik	0	0
Simon Wrecking	0	0
Quickline	0	0
Ashland Chemical Company	0	0

Diaz Chemical Corporation	0	0
Unisys	0	0
Rohm and Haas	0	0
Thomas & Betts	0	0

J-34, Supplemental Facts Stipulated by All Parties; P-329, Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc., ¶ 5; J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

185. All of these wastes contained at least some CERCLA hazardous substances. J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

186. Freddie DeRewal disposed of six to ten loads of NRM waste at the Site during the Gap period. Trial Transcript, June 30, 2008, 41:20-42:7 (F. DeRewal, Jr.).

187. The average load of bulk waste picked up by DCC was 4,000 gallons. Trial Transcript, June 30, 2008, 31:4-12 (F. DeRewal, Jr.)(describing size of rubber-lined tank wagon used to haul pickle liquors).

188. DCC disposed of 32,000 gallons of NRM waste at the Site during the Gap period. Trial Transcript, June 30, 2008, 41:20-42:7 (F. DeRewal, Jr.).

189. The total volume of waste disposed of at the Site during the Gap Period was 37,517 gallons.

The Wissinoming Period

190. 15% of all of the wastes handled by DCC after DCC began using the Wissinoming Industrial Park to dispose of its customers' wastes until March 29, 1977 (the "Wissinoming period") were disposed of at the Site. Proposed Findings of Fact ¶ 191-198.

191. Fred DeRewal formed a Pennsylvania corporation named Environmental Chemical Control ("ECC") on October 18, 1976. J-33, Facts Stipulated By All Parties, ¶ 68.

192. ECC entered into a lease dated May 6, 1976 wherein the landlord was the Wissinoming Industrial Park and the leased premises were on Comly Street in Philadelphia. The term of the lease was June 1, 1976 to May 31, 1977. The initial leasehold was limited to the first floor building "R." J-33, Facts Stipulated By All Parties, ¶ 69.

193. However, the period between when Ontario Street was shut down and DCC started using Wissinoming was only two months, so that Fred DeRewal had access to Wissinoming prior to the date of the ECC lease. Trial Transcript, June 30, 2008, 58:1-8 (F. DeRewal, Jr.).

194. Wissinoming was a warehouse facility that included a sewer into which DCC customer wastes could be dumped. Trial Transcript, June 30, 2008, 39:20-40:20 (F. DeRewal).

195. Freddie DeRewal took waste that he picked up from DCC customers to Wissinoming during the time that Wissinoming was opened. Trial Transcript, June 30, 2008, 40:15-20 (F. DeRewal, Jr.).

196. Jeff Shaak took waste that he picked up from DCC customers to Wissinoming during the time that DCC used Wissinoming Industrial Park to dispose of its customers' wastes. Trial Transcript, June 25, 2008, 116:13-117:25, 117:6-9 (J. Shaak).

197. June Stephens took all of the wastes she picked up from DCC customers to the Site while Wissinoming was open, except for two or three loads to Wissinoming. Stephens Dep. at 24:1-29:5; 170:1-171:11.

198. John Bean never took any DCC customer waste to any location other than the Site. Trial Transcript, June 25, 2008, 107:5-11, 105:23-106:2 (J. Bean).

199. The parties stipulated to the volume of waste picked up by DCC from the Plaintiffs and Settled Parties over an eleven month period from July 1, 1975 to June 1, 1976. The Court infers that the volume of waste picked up over this eleven month period was constant and that a monthly average may be determined. The volumes of Plaintiffs' and Settled Parties' waste picked up by DCC during the Wissinoming Period are calculated by multiplying the monthly average by 9 and then adding the stipulated volumes of waste hauled by DCC between June 1, 1976 and March 30, 1977. J-34, Supplemental Facts Stipulated by All Parties.

200. The following shows the volumes of waste that were picked up by DCC from the Plaintiffs and the Settled Parties during the Wissinoming Period, 15% of which were disposed of at the Site:

DCC customer	Volume of Waste (in Gallons) Picked up by DCC	Volume of Waste (in Gallons) Disposed of at the Site
Ford		
Cytec	116,000	17,400

SPS	22,691	3,404
TI Automotive		
Agere Systems, Inc.		
Techalloy		
Flexible Circuits	21,379	3,207
Etched Circuits	25,628	3,844
Plymouth Tube Company	4,818	723
Novartis	53,800	8,070
U.S. Navy		
Bostik	9,000	1,350
Simon Wrecking		
Quickline		
Ashland Chemical Company	555,655	83,348
Diaz Chemical Corporation ¹	173,100	25,965
Unisys		
Rohm and Haas		
Thomas & Betts		

J-34, Supplemental Facts Stipulated by All Parties; P-329, Stipulation Between Plaintiffs and Handy & Harman Tube Company, Inc., ¶ 5; J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

201. All of these wastes contained at least some CERCLA hazardous substances. J-35, Stipulation Between Plaintiffs, Handy & Harman Tube Company, Inc. and Carpenter Technology Corporation.

¹ The stipulated volume is an orphan share. Proposed Conclusions of Law ¶ 51, 52.

202. The parties did not stipulate to any volume of waste picked up from NRM by DCC. There is no record evidence of any specific volume of waste picked up by DCC from NRM during the Wissinoming Period.

203. Freddie DeRewal disposed of all of the NRM waste that he picked up during the Wissinoming period at the Wissinoming Industrial Park location. Trial Transcript, June 30, 2008, 42:1-3 (F. DeRewal, Jr.).

204. Jeff Shaak picked up waste from NRM. Jeff Shaak took all of the waste that he picked up from NRM to the Wissinoming Industrial Park for disposal. Trial Transcript, June 25, 2008, 116:13-1 (J. Shaak).

205. The total volume of waste disposed of at the Site during the Wissinoming Period was 147,311 gallons.

Unknown Periods

206. DCC picked up 2,390 gallons of waste from the United States Navy in an unknown period of time. J-34, Supplemental Facts Stipulated By All Parties.

207. DCC picked up 3,025 gallons of waste from Simon Wrecking in an unknown period of time. J-34, Supplemental Facts Stipulated By All Parties.

208. 15% of the wastes picked up by DCC in an unknown period of time, which is 812 gallons, were disposed of at the Site.

209. Though DCC picked up 36,500 gallons of waste from Knoll International, Inc. ("Knoll") in an unknown time period, Knoll is an orphan, so that no waste is included here

(see Proposed Conclusions of Law No. ¶ 53). J-34, Supplemental Facts Stipulated By All Parties.

Volumetric Shares of Carpenter, Plaintiffs and Settled Defendants

210. The total amount of waste disposed of at the Site during all time periods, including unknown time periods, is 1,633,638 gallons.

211. Carpenter, Plaintiffs and the Settled Defendants have the following volumetric shares:

Party	Volume	Percentage Share
Carpenter	1,029,452	63.02%
Ford	38,551	2.36%
Cytec	46,350	2.84%
SPS	30,328	1.86%
TI Automotive	0	0%
Agere Systems, Inc.	0	0%
Techalloy	226,776	13.88%
Flexible Circuits	53,542	3.28%
Etched Circuits	25,703	1.57%
Plymouth Tube Company	18,943	1.16%
Novartis	8,070	0.49%
U.S. Navy	359	0.02%
Bostik	1,350	0.08%
Simon Wrecking	454	0.03%
Quickline	859	0.05%
Ashland Chemical Company	83,348	5.10%
Diaz Chemical Corporation	25,965	1.59%
Unisys	3,430	0.21%
Rohm and Haas	0	0%

Thomas & Betts	0	0%
NRM	32,000	1.96%
Handy & Harman	8,158	0.50%
Totals	1,633,638	100.00%

Nature of Carpenter's Wastes and Carpenter's Lack of Cooperation

212. Mr. Elbert worked for Carpenter from September 12, 1968 through October 1, 2002. Trial Transcript, June 24, 2008, 115: 8-13 (Elbert).

213. Only the concentrated waste acids went into the waste acid holding tanks. Acid rinse streams went to the Carpenter waste water treatment plant. Adams Dep. at 55:23-57:1. Trial Transcript, June 24, 2008, 129:12-131:8 (Elbert); Trial Transcript, June 26, 2008, 10:12-11:5; 56:10-57:25 (Mann).

214. Charles Polinko has worked for Carpenter since July 13, 1970. Trial Transcript June 24, 2008, 61-13-17 (Polinko). He worked throughout that time in Carpenter's Research and Development Chemical label at the Reading facility, as part of which, in all of his capacities, he became familiar with the analyses that were being done by Carpenter of the various waste acids created at the Reading facility. Trial Transcript, June 24, 2008, 61-21-63:8 (Polinko).

215. It was Carpenter's practice to perform periodic tests of its wastes acids and to used those tests in its business, including so it would tell waste acid hauling companies what they were going to haul. Trial Transcript, June 26, 2008, 12:9-25 (Mann); Trial Transcript, June 24, 2008, 64-1165:17. (Polinko).

216. The samples were taken from the various waste acid holding tanks by Carpenter employees and delivered to the lab for analysis. Trial Transcript, June 24, 2008, 65-11-66:9 (Polinko).

217. The forms named "Analysis request waste acids" were used to periodically test the waste acid constituents, but measured only the constituents of the acids listed on those forms. Trial Transcript, June 26, 2008, 13:3-14:5 (Mann); Trial Transcript, June 24, 2008, 75:9-76:6 (Polinko); P-46.

218. The waste acids would vary somewhat from the test results on any particular day, but would not vary significantly. Trial Transcript, June 24, 2008, 82:22-83:19 (Polinko); Trial Transcript, June 26, 2008, 24:9-25 (Mann).

219. In the 1973 to June 1974 time frame, Carpenter's waste hydrochloric acid pickle liquor on average consisted of (by weight), among other compounds (by weight), hydrochloric acid (17%), hydrofluoric acid (0.2%), nitric acid (0.8%), sulfuric acid (0.9%), iron (3.4%), nickel (1.1%), chromium (0.5%), cobalt (0.05%), copper (0.02%), magnesium 0.007%), manganese (0.03%), phosphorus (less than 0.01%), titanium (0.003%), and vanadium (0.02%) and had pH of less than zero. Trial Transcript, June 30, 2008, 98:97:7-98:11; 101:25-102:9 (Exner); Trial Transcript, June 26, 2008, 22:16:9-23:12 (Mann); Trial Transcript, June 24, 2008, 75:9-25 (Polinko); P-40, February 25, 1971 Memorandum; P-46, Polinko Affidavit; P-301, Adams April 8, 1980 Memorandum.

220. Several of these metals were found by EPA in various media at the Site. J-26, Table 7; Trial Transcript, June 26, 2008, 29:6-32:19 (Mann).

221. Carpenter's pickle liquor was a particularly strong acid because the production people emptied the acid baths before they were fully "spent" and put in new acids because they were paid on a piece work basis and wanted the acid to work faster on the steel being pickled. Trial Transcript, June 26, 2008, 58:1-59:8 (Mann).

222. Pickle liquor is a very strong acid containing hazardous substances, and contains metals in it. Trial Transcript, July 1, 2008, 59:15-21 (K. Brown)

223. Every witness who was asked said that the waste hydrochloric acid was a strong acid and that they would not put their hand in it. *See, e.g.* Trial Transcript, June 24, 2008, 101:25-102:9 (Exner); Trial Transcript, June 26, 2008, 28:25-29:5;11:6-12:8 (Mann).

224. Carpenter received a Section 104(e) Request from EPA with respect to the Site. J-33, Facts Stipulated By All Parties, ¶ 75.

225. Carpenter received a General Notice/Special Notice Letter from EPA dated September 28, 2000. The letter asked Carpenter to resolve its potential liability to the United States for the alleged past costs incurred, and to agree to do the work required by the ROD but not included in the 2000 Consent Decree. J-33, Facts Stipulated By All Parties, ¶ 76.

Other Sites

226. DCC disposed of virtually all of its customers' wastes at only the Site, Ontario Street and Wissinoming except during the two month Gap Period. Trial Transcript, June 30, 2008, 38:24-39:3 (F. DeRewal, Jr.). Proposed Findings of Fact, ¶ 80-102, 146-160, 178-182, 190-198.

227. The Revere Chemical site, which Manfred DeRewal operated in the late 1960s, was shut down and cleaned up by the Pennsylvania Department of Environmental Protection ("PADEP") in or before 1971. Trial Transcript, June 25, 2008, 22:1-12 (P. Noll); Trial Transcript, June 30, 2008, 70:14-16 (J. Barsum).

228. Soon after it was shut down and cleaned up, the Revere Chemical site was inspected monthly for some time and then less frequently by the Bucks County Health Department. Trial Transcript, June 25, 2008, 22:13-16 (P. Noll).

229. During these inspections, the BCDOH did not observe any evidence that any wastes were being disposed of at the Revere Chemical site. Trial Transcript, June 25, 2008, 22:17-23:9.

230. The Revere Chemical site was shut down when June Stephens started driving a truck for DCC. Stephens Dep. at 178:15-18.

231. Bruce DeRewal never took any DCC customer waste to any location other than the Site, Ontario Street or Wissinoming. Trial Transcript, June 25, 2008, 60:12-16 (B. DeRewal).

232. Jeff Shaak never took any DCC customer waste to any location other than the Site or Wissinoming. Trial Transcript, June 25, 2008, 118:10-14 (J. Shaak).

233. John Bean never took any DCC customer waste to any location other than the Site. Trial Transcript, June 25, 2008, 107:5-11, 105:23-106:2 (J. Bean).

234. The only locations to which June Stephens ever took DCC customer wastes were the Site, Ontario Street, and Wissinoming. Stephens Dep. at 24:1-29:5; 170:1-171:11.

235. DCC did not take Carpenter waste to a landfill in or near Reading, Pennsylvania. No DCC driver testified to taking Carpenter waste anywhere other than the Site or Ontario Street. Manfred DeRewal's statement that 5-10 loads of unidentified DCC customers' waste went to a landfill on Route 322, "on the road to Reading" is not credible. Route 322 is not "on the road to Reading." Mr. DeRewal also did not say that Carpenter's waste went there. Manfred DeRewal Dep. at 295:10-296:8.

Orphaned Parties

236. Manfred T. DeRewal, Sr. has no assets which are available and would allow him to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 148:2-152:5 (R. Dovell).

237. Boarhead Corporation has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 152:9-154:4 (R. Dovell).

238. DeRewal Chemical Company has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 154:5-24 (R. Dovell).

239. Environmental Chemical Control, Inc. has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 154:25-155:22 (R. Dovell).

240. Diaz Chemical Corporation ("Diaz") has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 155:23-157:3 (R. Dovell).

241. Drake Chemicals, Inc. has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 157:5-158:9 (R. Dovell).

242. Envirotec, Inc. has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 158:10-159:24 (R. Dovell).

243. Globe Disposal Co., Inc. has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 159:25-161:4 (R. Dovell).

244. Haven Chemical, Inc. and Haven Industries, Inc. have no assets which are available and would allow those entities to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 161:5-162:5 (R. Dovell).

245. Merit Metal Products Corporation has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 162:6-163:2 (R. Dovell).

246. Sitkin Smelting & Refining, Inc. has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 163:3-164:13 (R. Dovell).

247. Trace International, Inc., successor to Art Metal-Knoll Corporation, and later named Knoll International, Inc., has no assets which are available and would allow it to participate financially in the cleanup of the Site. Trial Transcript, June 24, 2008, 164:14-166:23 (R. Dovell).

Allocation

248. All of the wastes disposed of at the Site contributed in some manner to the environmental conditions that led to the need for and the cost of the response activities at the Site. Trial Transcript, June 23, 2008, 126:11-22, 182:23-187:57 (J. Vandeven).

249. A wide variety of wastes were released in varying modes (bulk disposal, drum burial) at both known and unknown locations over a period of years into a complex environment. Trial Transcript, June 23, 2008, 156:18-157:15, 182:23-187:17 (J. Vandeven).

250. Disposal of wastes of many types in multiple and overlapping locations at the Site released a wide variety of hazardous substances to the environment. Trial Transcript, June 23, 2008, 142:19-150:23 (J. Vandeven); J-30, July 1997 Feasibility Study Report at Figure 1-4.

251. The disposal of wastes of varying types in multiple locations contributed to the contamination of groundwater of virtually the entire Site. Trial Transcript, June 23, 2008, 151:1-154:21, 163:17-164:4; J-30, Figures 1-5 and 1-6.

252. The various wastes disposed of at the Boarhead Farms site interacted with other wastes and environmental media in a very complex manner to cause the environmental conditions that led to the response activities. Trial Transcript, June 23, 2008, 156:18-157:15, 182:23-187:17 (J. Vandeven).

253. The Site is an extremely complicated environmental system that will require an undefined future period to clean up. Trial Transcript, July 1, 2008, 71:3-18 (K. Brown).

254. The need for remediation at the Site is driven by inorganic chemicals and organic chemicals in soil and groundwater. Trial Transcript, June 23, 2008, 137:15-138:11, 142:5-18 (J. Vandeven).

255. The primary migration pathway for contaminants at the Site is through the shallow groundwater system that exists in and above the upper zone of the bedrock. Wastes released at the Site entered the subsurface environment and this shallow groundwater system as a result of natural processes (such as gravity-driven flow of liquids and infiltration of rainwater and snowmelt) and human activities (such as burial of drums and disposal in pits). Trial Transcript, June 23, 2008, 159:7-162:12 (J. Vandeven).

256. The upper surface of the bedrock that underlies the Site (which is diabase, an intrusive volcanic rock) is weathered and moderately fractured. The depth to bedrock varies across the Site from less than five to more than ten feet. Trial Transcript, June 23, 2008, 160:7-19 (J. Vandeven).

257. Remedial action was necessary to address concentrations above standards for metals in soil and ground water, including chromium and nickel. January 1997 Final Remedial Investigation Report (including Appendices A-I) at 34.

258. The baseline human health risk assessment in the RI/FS concluded that the risks associated with residential use of ground water at on-site and off-site locations (including many existing residential wells) exceeded acceptable limits. Metals contributed substantially to these unacceptable risks. Trial Transcript, June 23, 2008, 173:14-19, 176:14-179:20 (J. Vandeven); J-29, January 1997 Final Remedial Investigation Report (including Appendices A-I) at Table 7.

259. Metals released to the environment as bulk wastes and drummed wastes contributed substantially to the need for and cost of the response activities taken at the Boarhead Farms Superfund Site. Trial Transcript, June 23, 2008, 173:10-13, 181:19-182:22 (J. Vandeven).

260. All of the remedial alternatives that were considered protective of human health and the environment involved chemical precipitation of metals to reduce the concentrations of metals in groundwater. Trial Transcript, June 23, 2008, 180:6-181:18, 204:2-10 (J. Vandeven).

261. Pickle liquors released at the Site increased the acidity and the levels of metals in both soil and groundwater. Trial Transcript, June 23, 2008, 174:10-175:5 (J. Vandeven).

262. Acid wastes released to the environment increased the mobility of metals and the corrosivity of the subsurface materials, thus contributing to the need for and cost of the

response activities taken at the Site by increasing concentrations of contaminants in groundwater. Trial Transcript, June 23, 2008, 164:5-166:25, 168:7-13, 172:15-173:9, 210:12-211:9 (J. Vandeven).

263. The acidity of the acid wastes disposed of in bulk increased the acidity of the water in the subsurface, thus increasing the solubility and mobility of these metals. Trial Transcript, June 23, 2008, 167:1-23 (J. Vandeven).

264. Neutralization of acids by interaction with the soil depletes the general buffering capacity of soil, resulting in a subsurface environment that is more susceptible to significant changes in pH. This facilitates the migration of chemicals that are more soluble in either acidic or basic conditions. Trial Transcript, June 23, 2008, 168:14-169:14 (J. Vandeven).

265. The buffering capacity of the soils at the Site was overwhelmed by the acids that were placed in them. Twenty years later those soils are still not returning to their original pH, and there is no natural mechanism to neutralize those soils, once they have been acidified to this extent. Trial Transcript, July 1, 2008, 62:18-64:9 (K. Brown); Trial Transcript, June 23, 2008, 168:19-169:14 (J. Vandeven).

266. Indeed, the soils are digesting themselves, prolonging the acidic conditions. Trial Transcript, July 1, 2008, 64:10-17 (K. Brown).

267. Early releases of acid wastes facilitated the migration of contaminants released at later times. Trial Transcript, June 23, 2008, 168:19-120:9 (J. Vandeven).

268. Metal drums that were placed in soils that had been affected by earlier releases of acids would tend to corrode faster than drums placed in unaffected soils. Releases of

acid that occurred after the drums were in place would also have increased the rate of corrosion. Trial Transcript, June 23, 2008, 197:3-198:4, 211:10-212:17 (J. Vandeven).

269. The groundwater in the vicinity of where acidic wastes were dumped were very acidic when tested during the Remedial Investigation in the 1990s, with a pH as low as four. Trial Transcript, July 1, 2008, 48:3-49:8 (K. Brown).

270. The source of those low pH levels were the acids that were dumped in that area. Trial Transcript, July 1, 2008, 506-7 (K. Brown).

271. The low acidity decreases the rate at which even organic solvents degrade, making the concentrations of those organics higher and requiring a longer period for remediation. Trial Transcript, July 1, 2008, 51:25-52:20 (K. Brown).

272. The groundwater conditions at the Site do not permit distinguishing one party's waste from another party's waste. Trial Transcript, July 1, 2008, 30:19-24 (K. Brown).

273. Because the wastes were commingled and spread in the soil and entered the groundwater, there is no way to separate out the remediation of any particular contaminants or group of contaminants. Trial Transcript, July 1, 2008, 54:10-19 (K. Brown); Trial Transcript, June 23, 2008, 182:23-187:17 (J. Vandeven).

274. None of the costs of investigating and remediating the Site can be separated out by any particular contaminants or group of contaminants. Trial Transcript, July 1, 2008, 54:20-55:22 (K. Brown); Trial Transcript, June 23, 2008, 182:23-187:17 (J. Vandeven).

275. Risk analysis does not particularly, and in this case not at all, impact the cost of the cleanup. Remediation costs are driven more by the volume of material that has to be remediated. Trial Transcript, July 1, 2008, 59:22-60:11 (K. Brown).

276. All of the dollars spent investigating and remediating the Site were a result of all of the waste that was disposed of at the Site. Trial Transcript, July 1, 2008, 64:25-65:3 (K. Brown); Trial Transcript, June 23, 2008, 182:23-187:17 (J. Vandeven).

277. All of the response actions by EPA and Plaintiffs are part of a continuing process of responding to environmental contamination at the Site. Trial Transcript, July 1, 2008, 71:19-24 (K. Brown).

278. Looking at any one of those components as separate and distinct would be an narrow view because each part is part of a process that is a full and complete response to the environmental situation. Trial Transcript, July 1, 2008, 71:25-72:8 (K. Brown).

279. Dr. Mink made four or five statements in his opinion testimony that were incorrect. Trial Transcript, July 2, 2008, 121:5-8 (Summation).

280. This Court finds that Dr. Mink's testimony had no credibility whatsoever.

281. Carpenter conceded that this action is not about the toxicity of different wastes. Trial Transcript, July 2, 2008, 122:11-13 (Summation).

PROPOSED CONCLUSIONS OF LAW

1. Federal jurisdiction is based on its subject matter pursuant to 42 U.S.C. § 9613(b), and pursuant to 28 U.S.C. §§ 1331 and 1367(a). This Court has supplemental

jurisdiction over the claims brought under Pennsylvania's Hazardous Sites Cleanup Act ("HSCA"), 35 P.S. §6020.101 *et seq.* based on 28 U.S.C. § 1367. This Court has authority to enter a declaratory judgment pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201, 2202, and Section 113(g)(2) of CERCLA, 42 U.S.C. 9613(g)(2). Venue is proper in the Eastern District of Pennsylvania as the Site and the releases of "Hazardous Substances" occurred in the district.

2. The Site is a "facility" as that term is defined in 42 U.S.C. § 9601(9). J-33, Facts Stipulated by All Parties, ¶ 2.

3. The Site is a "site" as defined in Section 103 of the HSCA, 35 P.S. § 6020.103. J-33, Facts Stipulated by All Parties, ¶ 3.

4. "Hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), were disposed of, placed on, or otherwise became located at the Site. J-33, Facts Stipulated by All Parties, ¶ 4.

5. There have been "releases" as that term is defined in Section 101(22) of CERCLA 42 U.S.C. § 9601(22), or threatened releases of hazardous substances into the environment at or from the Site. J-33, Facts Stipulated by All Parties, ¶ 5.

6. There have been "releases" or "substantial threats of releases" of "hazardous substances" and "contaminants" into the environment at or from the Site, as those terms are defined in Sections 101(22), 103, and 501(a) of HSCA, 35 P.S. §§ 6020.101(22), 6020.103 and 6020.501(a). J-33, Facts Stipulated by All Parties, ¶ 6.

7. The release or releases have caused the incurrence of “response” costs at the Site, as that term is defined in 42 U.S.C. § 9601(25). J-33, Facts Stipulated by All Parties, ¶ 7.

8. Carpenter Technology Corporation (“Carpenter”) is a person as that term is defined under both 42 U.S.C. § 9601 and 35 P.S. § 6020.103. J-33, Facts Stipulated by All Parties, ¶ 8.

9. Plaintiffs had to prove four elements to establish Carpenter’s liability: (1) that the defendants are potentially responsible parties; (2) that a hazardous substance was disposed of at a facility; (3) that there was a release or threatened release of a hazardous substance from the facility into the environment; and (4) that the release or threatened release required or will require Plaintiffs to incur response costs. 42 U.S.C. § 9607(a); *New Jersey Turnpike Auth. v. PPG Industries, Inc.*, 197 F.3d 96, 103-04 (3d Cir. 1999).

10. Carpenter’s waste hydrochloric acid pickle liquor is itself a hazardous substance under CERCLA, is a hazardous waste under RCRA (characteristic of corrosivity) and therefore a hazardous substance under CERCLA, and it also contains several metals which are hazardous substances. 42 U.S.C. § 9601(14); 40 C.F.R. Part 302.

11. Carpenter is a liable party under Section 107(a) because it is a person who by contract, agreement or otherwise, arranged for the disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances owned or possessed by them or by another party or entity at the Site, and because Carpenter has stipulated to the other three elements of Section 107(a).

12. Any response action carried out in compliance with the terms of an order issued by EPA pursuant to section 106 of CERCLA, or a consent decree entered into pursuant to section 122 of CERCLA, will be considered “consistent with the NCP.” 40 C.F.R. §300.700(c)(3)(ii).

13. The response costs incurred by Plaintiffs are necessary and consistent with the national contingency plan. J-33, Facts Stipulated by All Parties, ¶ 60. *See also, United States v. Atlas Minerals*, 1995 U.S. Dist. LEXIS 13097, *304-05 (E.D. Pa. Aug. 22, 1995) (regulation creates an irrebuttable presumption that any actions taken by private plaintiff pursuant to a consent decree are consistent with the NCP); and *Morrison Ent. v. McShares, Inc.*, 302 F.3d 1127, 1136 (10th Cir. 2002) (“Where a private party is cleaning up a site pursuant to ... a consent order entered into between the party and EPA under 42 U.S.C. §9622, the regulations establish an irrebuttable presumption that the private party’s actions were consistent with the NCP”). The total of those costs through 2007 is \$13,678,378.55.

14. The response costs incurred by Plaintiffs are reasonable and necessary or appropriate costs of response within the meaning of 35 Pa. Stat. Ann. § 6020.702(a).

15. Plaintiffs have settled with several other Defendants. It is the law of the case that the liability of Carpenter is determined without regard to the dollar amounts of those settlements. Plaintiffs are responsible for the equitable shares, if any, of the parties with which they have settled. June 30, 2004 Memorandum Order at 8. Defendants have the burden of proving any such shares. Defendants also have the burden of proving the share of Plaintiffs, if any.

16. Cytec, Ford, SPS, and TI have Section 113(f) claims for EPA's past costs paid pursuant to the OU-2 Consent Decree. *United States v. Atlantic Research Corporation*, 127 S. Ct. 2331, 2338 (2007).

17. Agere has Section 107(a) claims for the OU-1 RD/RA work, EPA's oversight costs related to that work, the OU-2 RD/RA work, and EPA's oversight costs related to that work, as it was not a party to either Consent Decree. *Atlantic Research*, 127 S. Ct. at 2333-34.

18. TI has Section 107(a) claims for the OU-1 RD/RA work and EPA's oversight costs related to that work, as it was not a party to the OU-1 Consent Decree. *Atlantic Research*, 127 S. Ct. at 2333-34.

19. Cytec, Ford, and SPS have both Section 107(a) and Section 113(f) claims for the OU-1 RD/RA work, EPA's oversight costs related to that work, the OU-2 RD/RA work, and EPA's oversight costs related to that work, as these costs were not reimbursed to EPA. *Atlantic Research*, 127 S. Ct. at 2338, n. 6.

20. TI has both Section 107(a) and Section 113(f) claims for the OU-2 RD/RA work, and EPA's oversight costs related to that work, as these costs were not reimbursed to EPA. *Atlantic Research*, 127 S. Ct. at 2338, n. 6.

21. Carpenter is jointly and severally liable to Plaintiffs for those costs with respect to which Plaintiffs have a Section 107(a) claim, subject only to Carpenter's proof of its Section 113(f) counterclaim. *See, e.g., DuPont v. United States*, 460 F.3d 515, 521-22 (3d Cir. 2006); *New Castle County v. NUS Haliburton*, 111 F.3d 1116, 1120-21 (3d Cir. 1997).

22. Carpenter has a Section 113(f) claim against Plaintiffs. Carpenter bears the same burden of proof as Plaintiffs on that claim. January 11, 2009 Memorandum and Order at 8.

23. This Court shall resolve all claims by determining, pursuant to Section 113(f), the equitable shares of Carpenter, Plaintiffs, and the parties with which Plaintiffs have settled.

24. Carpenter's liability is no different or greater under the HSCA than it is under CERCLA. *Two Rivers Terminal, L.At. v. Chevron USA, Inc.*, 96 F. Supp. 2d 432, 443 (E.D. Pa. 2000).

25. The allocation of response costs in a Section 113 contribution action is governed by CERCLA's broad instruction that the court "may allocate response costs among liable parties using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1). Trial courts should exercise their discretion in determining what factors to consider. *Beazer East, Inc. v. Mead Corp.*, 412 F.3d 429, 446 (3d Cir. 2005) (citing *Envil. Trans. Sys. Inc. v. ENSCO*, 969 F.2d 503, 508 (7th Cir. 1992); *U.S. v. R.W. Meyer, Inc.*, 932 F.2d 568, 576-77 (6th Cir. 1991)). This Court "may consider several factors or a few, depending on the totality of the circumstances." *Id.* (citing *New Jersey Turnpike Auth. v. PPG Indus., Inc.*, 197 F.3d 96, 104 (3d Cir. 1999)). Allocation is a fact-sensitive determination that must be made on a case-by-case basis, taking into account all relevant equitable considerations. *Smith Land & Improvement Corp. v. Celotex Corp.*, 851 F.2d 86, 90 (3d Cir. 1988).

26. Based upon all of the facts, including Proposed Findings of Fact ¶¶ 248-281, there is no meaningful way to allocate costs of any particular response action incurred by Plaintiffs to any specific type or category of waste disposed of at the Site. The Court will

accordingly use volume as the primary equitable factor in allocating Plaintiffs' costs. *Boeing Co. v. Cascade Corp.*, 207 F.3d 1177, 1187-88 (9th Cir. 2000) (affirming allocation based solely on relative volume); *AKZO Nobel Coatings, Inc. v. Aigner Corp.*, 197 F.3d 302, 304-05 (7th Cir. 1999) (affirming refusal of District Court to apportion costs according to toxicity); *U.S. v. Davis*, 31 F. Supp.2d 45, 64 (D.R.I. 1998 (using amount of waste as the dominate factor where wastes had been commingled into a homogeneous "brew" and allocation of discrete portions of cleanup costs to any specific type of waste or party was impossible)).

27. The total volume of waste disposed of at the Site from Plaintiffs, the parties with which Plaintiffs have settled, and Carpenter is 1,633,638 gallons. Proposed Findings of Fact ¶ 210, 211. The total volume of waste disposed of at the Site from Carpenter is 1,029,452 gallons. Proposed Findings of Fact ¶ 211. Carpenter's percentage share of the total volume is 63.02% $[(1,029,452/1,633,638)]$. Plaintiffs' (including the parties with which it has settled) percentage share of this total volume is 36.98%.

28. Culpability is an appropriate equitable factor in resolving contribution claims under section 113(f)(1) of CERCLA. *Browning-Ferris Indus. of Illinois, Inc. v. Ter Maat*, 195 F.3d 93, 958-59 (7th Cir. 1999)(blame worthiness of parties is equitable factor); *Bedford Affiliates v. Sillis*, 156 F.3d 416, 429-30 (2nd Cir. 1998)(allocation based upon "a comparative culpability analysis focusing on several factors, including relative fault"); *Environmental Transportation Systems, Inc. v. Ensco, Inc.*, 969 F.2d 503 (7th Cir. 1992)(fault is a proper allocation factor).

29. Carpenter used Revere Chemical Corporation in 1969 and 1970 to haul its waste acids, knowing that Manfred DeRewal was the President. Proposed Findings of Fact

¶ 110,111. It learned that Manfred DeRewal was a polluter in 1970, yet hired him again in the form of DeRewal Chemical Company in June 1973 to again haul its waste acids. Proposed Findings of Fact ¶ 112-119. Carpenter also hired Chemlime to haul its waste acids in the 1973 time period. Proposed Findings of Fact ¶ 112. It knew too that Chemlime was in trouble for dumping waste into an abandoned sludge pit. Proposed Findings of Fact ¶ 112.

30. Carpenter thus made the decision to put its harmful wastes into the hands of known polluters and was on notice that such wastes would not be disposed of in a legal and safe manner. Nothing changes this fact, even if DCC falsely told Carpenter that its wastes would be recycled at Sylvan Chemical Corporation.

31. Carpenter's conduct is an important equitable factor that this Court will use in determining allocable shares. Carpenter's allocable share will be significantly increased because of this equitable factor.

32. Cooperation with the government is an appropriate equitable factor in resolving contribution claims under section 113(f)(1) of CERCLA. *United States v. Consolidation Coal Co.*, 345 F.3d 409 (6th Cir. 2003); *United States v. Atlas Minerals & Chemicals, Inc.* (No. 91-5118), 1995 WL 51034 at *230 (E.D. Pa. August 22, 1995). Cooperation from PRPs in settling with EPA and agreeing to clean up Superfund sites is central to EPA in furthering its primary goal of rapid and effective cleanups. *In re Tutu Water Wells CERCLA Litig.*, 326 F.3d 201, 206 (3d Cir. 2003) (citing *United States v. Occidental Chem. Corp.*, 200 F.3d 143,147 (3d Cir. 1999))(court factored in degree of cooperation of parties with EPA). *United States v. General Battery Corp.*, 423 F.3d 294, 304 (3d Cir. 2005) (minimizing litigation and transaction costs are included within CERCLA's goals); CERCLA section 122(a),

42 U.S.C. §9622(a) (“... the President shall act to facilitate agreements... in order to expedite effective remedial actions and minimize litigation.”).

33. One of CERCLA’s underlying policies is to encourage and reward PRPs who settle with EPA and penalize PRPs who refuse to cooperate. *United States v. Alcan*, 25 F.3d 1174, 184-1185 (3d Cir. 1994) (“SARA, therefore, gives preference to early settlers by exposing a non-settling PRP to liability for the rest of the cleanup cost even if that exposure exceeds the amount the non-settlor’s actions added to the overall cost of the cleanup.”) (*citing United States v. Cannons Engineering*, 720 F. Supp. 1027, 1040 (D. Mass. 1989) (the statutory scheme is designed to discourage ‘free riders’ by imposing a greater share of clean-up costs on those who delay agreeing to contribute to remedial action.); *United States v. Kramer*, 953 F. Supp. 2d 592, 600 (D.N.J. 1997).

34. Courts routinely apply the degree of cooperation to adjust parties’ allocable shares upward based upon cooperation with EPA (specifically entering into settlements with EPA) or downward based upon lack thereof. *Consolidation Coal Co.*, 345 F.3d at 414-416 (doubled share of non-settling party for lack of cooperation); *City of Bangor v. Citizens Communications Co.*, 437 F. Supp. 2d 180 (D. Maine 2006)(plaintiff deserved “credit” for its cooperation with agencies and remediating the site); *Pneumo Abex Corp. v. Bessemer and Lake Erie Railroad Co., Inc.*, 936 F. Supp. 1250, 1270-1271 (ED. Va. 1996)(stated that cooperation factor was one of those factors considered in arriving at overall percentage share); *Durham Manufacturing Co. v. Merriam Manufacturing Co.*, 294 F. Supp. 2d 251, 269 (D. Conn. 2003)(plaintiff’s settlement with EPA and defendant’s non-settlement required a decreased share for plaintiff); *United States v. Vertac Chemical Corp.*, 79 F. Supp. 2d 1034, 1037,1040 (ED. Ark. 1999)(adjusted share of non-settler up from 1.76% to 2.6% for lack of cooperation and for

some “involvement” in the contamination); *Ekotek Site PRP Committee v. Self*, 1 F. Supp. 2d 1282, 1304-1305 (D. Utah 1998)(share of non-settler adjusted for recalcitrance); *Browning-Ferris Indus. of Illinois, Inc. v. Ter Maat*, 13 F. Supp. 2d 756, 781-82 (N.D. Ill. 1998)(defendants’ lack of cooperation and involvement in cleanup weighed “heavily” in allocating to them a greater share); *Central Maine Power Co. v. O’Connor*, 838 F. Supp. 641, 646 (D. Maine 1993)(“The degree of cooperation with government officials to prevent any harm to the public health or the environment is very important in the contribution analysis.” Court appears to have significantly increased share based on this factor).

35. Plaintiffs have entered into two settlements with EPA, in which they settled EPA’s past costs claim and agreed to do all of the remaining work at the Site. CERCLA is thus working the way Congress intended because of Plaintiffs’ actions.

36. Carpenter has made no contribution to those efforts, despite having received a 104(e) request and a General/Special Notice letter from EPA. That letter asked Carpenter to resolve its potential liability to the United States for the alleged past costs incurred, and to agree to do the work required in the ROD but not included in the 2000 Consent Decree. J-33, Facts Stipulated By All Parties, ¶ 75, 76.

37. Carpenter offered no testimony or other evidence to try and explain why it failed to agree with EPA to settle EPA’s past costs claim or to do any remedial work at the Site.

38. Plaintiffs’ cooperation with EPA and Carpenter’s lack thereof is an important equitable factor that this Court will use in determining allocable shares. *United States v. Consolidated Coal Co.*, 345 F3d 409, 414-15 (6th Cir. 2003). Carpenter’s allocable share will be increased because of this equitable factor.

39. Carpenter's volumetric share is 63.02%. Courts routinely significantly adjust volumetric shares based upon the parties' cooperation and lack thereof with EPA. Carpenter was on notice that DeRewal, known by Carpenter to be a polluter, would likely dispose of its waste illegally and in an unsafe manner. The Court accordingly finds that Carpenter's equitable share of Plaintiffs' response costs through 2007 and Plaintiffs' future response costs is 80% and Plaintiffs' (and the parties with which Plaintiffs settled) is 20%.

40. The total of Plaintiffs' recoverable response costs through 2007 is \$13,678,378.55. Proposed Findings of Fact ¶ 54.

41. CERCLA section 9607(a)(4) provides in part that

The amounts recoverable in an action under this section shall include interest on the amounts recoverable under subparagraphs (A) through (D). Such interest shall accrue from the later of (i) the date payment of a specified amount is demanded in writing, or (ii) the date of the expenditure concerned. The rate of interest on the outstanding unpaid balance of the amounts recoverable under this section shall be the same rate as is specified for interest on investments of the Hazardous Substance Superfund established under subchapter A of chapter 98 of Title 26.

42 U.S.C. § 9607(a)(4).²

42. Plaintiffs' June 18, 2002 Complaint, which stated in relevant part that Plaintiffs' had settled EPA's past costs and had thereby incurred \$7,000,000, satisfies the requirements of Section 9607(a)(4)(D). *K.C. 1986 Limited Partnership v. Reade Manufacturing*,

² The language of the relevant HSCA provision is almost identical. HSCA Section 702(b) provides that:

(1) that amounts recoverable in an action under section 507 and 1101 include interest on the amounts recoverable under subsection (a). Interest shall accrue from the later of: (i) the date payment of a specified amount is demanded in writing; or (ii) the date of the expenditure concerned . . .

35 P.S. § 6020.702(b).

et al., 472 F.3d 1009, 1018-19 (8th Cir. 2007); *Bancamerica Commercial Corp. v. Mosher Steel of Kansas, Inc.*, 100 F.3d 792, 801-02; *In re Bell Petroleum Services, Inc.*, 3 F.3d 889, 908 (5th Cir. 1993);

43. The award of prejudgment interest under CERCLA Section 113(f) is discretionary, but is appropriate “when a plaintiff has been denied the use of an ascertainable amount of money for a period of time, there is an actual loss.” *Caldwell Trucking PRP v. Rexon Technology Corp.*, 421 F.3d 234, 247 (3d Cir. 2005). *But see, K.C. 1986 Limited Partnership v. Reade Manufacturing, et al.*, 472 F.3d 1009, 1018-19 (8th Cir. 2007) (award mandatory); *Bancamerica Commercial Corp. v. Mosher Steel of Kansas, Inc.*, 100 F.3d 792, 801-02 (award mandatory). Indeed, because the purpose of contribution is to equitably apportion response costs among liable parties, failure to grant prejudgment interest on contribution awards may result in *inequitable* apportionment, because the parties awarded contribution will still have lost the time value of the money they spent on behalf of the other liable parties. *Bancamerica Commercial Corp.*, 100 F.3d at 801-02. Failure to grant prejudgment interest would be also be a disincentive for private parties to undertake cleanup actions because they would lose the time value of the money spent. *Id.* The Court takes judicial notice of the applicable statutory rates, available at http://www.epa.gov/cfo/finstatement/superfund/int_rate.htm.

44. Prejudgment interest additionally is presumptively available under federal common law in federal question actions. *Gorenstein Enterprises, Inc. v. Quality Care-USA, Inc.*, 874 F.2d 431, 436-37 (7th Cir. 1989). The prime rate is used to calculate such interest. *Id.* at 436. *See also, Feather v. United Mine Workers of America*, 711 F.2d 530, 540 (3d Cir. 1983)(prejudgment interest available even where damages are *unliquidated*, based upon four factors); *Taxman v. Board of Educ. of Tp. of Piscataway*, 91 F.3d 1547, 1566 (3d Cir.

1996)(adjusted prime rate published by Secretary of Treasury and codified at 26 U.S.C. § 6621 may be used). The Court takes judicial notice of the prime rates as applicable here.

45. Plaintiffs took over the operation and maintenance of the portions of the remedy constructed by EPA in 2000. Proposed Findings of Fact ¶ 22. They have since agreed to do all of the remedial work required by the ROD, and settled EPA's past cost claim. Proposed Findings of Fact ¶ 22, 38. Plaintiffs have thus been spending millions of dollars at the Site for over eight years. They have been deprived the use of that money until now. Prejudgment interest will not only compensate Plaintiffs for the loss of the value of that money, but will reward them for settling with EPA and taking over the remedial work. Prejudgment interest is particularly appropriate under these circumstances.

46. Prejudgment interest calculated in accordance with CERCLA (at the Superfund rate and from the date of the Complaint or the date of the expenditure, whichever is later and based upon J-17) and through July 18, 2008 is set forth on the chart attached hereto and marked Exhibit A. The total of this prejudgment interest is \$2,617,546. Plaintiffs' recoverable response costs incurred through 2007 (\$13,678,378.55) and the prejudgment interest on those costs totals \$16,295,924.55.

47. Plaintiffs are entitled to judgment in their favor and against Carpenter in the amount of \$13,036,739.64.

48. Plaintiffs are also entitled to a declaratory judgment in their favor and against Carpenter that it is liable for 80% of all costs spent and to be spent in the future by Plaintiffs from January 1, 2008 for the response actions required by either Consent Decree. *Beazer East, Inc. v. The Mead Corporation*, 525 F.3d 255, 258 (3d Cir. 2008).

49. An “orphan share” is the share of waste from unidentifiable sources or insolvent PRPs. *Action Mfg. Co., Inc. v. Simon Wrecking Co.*, 428 F. Supp. 2d 288, 328 (E.D. Pa. 2006). Orphan shares should be allocated equitably among plaintiff and defendant PRPs. *See, e.g., Morrison Enter. v. McShares, Inc.*, 302 F.3d 1127, 1135 (10th Cir. 2002) (orphan shares “should be equitably divided among the plaintiffs and other defendant PRPs”); *Centerior Serv. Co. v. Acme Scrap Iron & Metal Corp.*, 153 F.3d 344, 354 (6th Cir. 1998) (in a contribution suit “the district court, pursuant to its § 113(f) authority may apportion the amount of the orphan shares among the parties”); *Pinal Creek Group v. Newmont Min. Corp.*, 118 F.3d 1298, 1303 (9th Cir. 1997) (“Under § 113(f)(1), the cost of orphan shares is distributed equitably among all PRPs”).

50. This Court will not consider any volumes of waste from unidentifiable sources or insolvent PRPs because any such wastes would be orphaned. Even if there was a defined orphan share, there is no legal or equitable reason here to allocate such orphan share to any particular party here. *See, e.g., Action Mfg. Co., Inc. v. Simon Wrecking Co.*, 428 F. Supp. 2d at 328-29. All parties had the opportunity to bring claims in this action against any person whom they believed to be liable. Consequently, any orphan share would be allocated pro-rata amongst the parties, in which case the parties’ shares relative to each other would not change. For example, in the simple case where there are two liable parties, each with a 25% equitable share and an orphan share of 50%, the 50% orphan share would be allocated pro-rata (50% each) to the two parties. Each party would therefore still have a 50% equitable share as between themselves. Any determinate or indeterminate orphan share thus will be allocated between Plaintiffs (including parties with which they have settled) and Carpenter in proportion to their relative liability at the

Site. *Id.* Accordingly, any orphan shares have no effect on those equitable shares and will not be considered in any way.

51. Diaz's share of the volume of waste disposed of at the Site is an orphan share. October 29, 2007 Order at 1; Trial Transcript June 24, 2008, 155:23-157:3 (R. Dovell).

52. This Court has already ruled that AETC, however, is liable for arranging the Diaz waste stream. This Court recognizes, therefore, that Plaintiffs' volumetric share is overstated due to the inclusion of the entire Diaz waste volume.

53. Knoll International, Inc.'s share is an orphan share. Trial Transcript June 24, 2008, 164-166:23 (R. Dovell).

54. Thus, no volume from Knoll International, Inc. hauled by DeRewal was considered in determining the percentage shares of volume disposed of at the Site relating to Plaintiffs, Carpenter, or the parties with which Plaintiffs have settled.

55. TI is entitled to recover from Carpenter the past and future response costs paid or to be paid on its behalf by Smiths Group PLC (through its subsidiaries).

56. Smiths Group plc agreed to indemnify TI with respect to TI's liability as a result of or in connection with the Site. Proposed Findings of Fact ¶ 66. TI in turn agreed that it would repay to Smiths TI's portion of any recovery from this civil action and TI has made interim repayment to Smiths. Proposed Findings of Fact ¶ 69, 71, and 72.

57. The indemnity payments made by two subsidiaries of Smiths Group plc into OU-1 and OU-2 Group trust accounts were made on behalf of TI with respect to TI's obligations to those groups and to EPA with respect to the OU-2 Consent Decree. Proposed Findings of Fact ¶ 70.

58. CERCLA Section 114(b) does not apply to contractual allocations of liability. That section provides: “Any person who receives compensation for removal costs or damages or claims pursuant to this chapter shall be precluded from recovering compensation for the same removal costs or damages or claims pursuant to any other State or Federal law. Any person who receives compensation for removal costs or damages or claims pursuant to any other Federal or State law shall be precluded from receiving compensation for the same removal costs or damages or claims as provided in this chapter.” Section 114 is intended to preserve states’ ability to impose liability for damages under tort and state law (such as little Superfund laws): “Nothing in this chapter shall be construed or interpreted as preempting any State from imposing any additional liability or requirements with respect to the release of hazardous substances within such State.” 42 U.S.C. § 9614(a). Congress did not say, however “pursuant to law or contract,” or words to that effect. Congress knew how to distinguish between “law” and “contract” when passing CERCLA, and specifically refers to contracts where contractual arrangements are contemplated. *See, e.g.*, 42 U.S.C. § 4527 (providing that the Secretary of HUD has “the power to foreclose on any property or commence any action to protect or enforce any right conferred upon him by ‘law, contract or other agreement’”).

59. The Supreme Court in *Atlantic Research* recognized that contiguous sections of CERCLA must be read in context by, for example, interpreting the phrase “any other person” found in Section 107(a)(4)(B) by referring to the immediately preceding subparagraph (A). 127 S. Ct. at 2335-38. Section 114(b) must thus be read in context with Section 114(a). Section 114(a) refers to State laws not preempted by CERCLA. Section 114(b) should therefore be read as applying only to removal costs, damages, or claims recovered pursuant to federal or

state laws that are not preempted per Section 114(a). Neither section refers to recovery under contracts, so no such prohibition was intended.

60. Because any recovery between TI and Smiths Group plc is under contract and not law, Section 114(b) is inapplicable.

61. There is no double recovery here in any event, because TI has agreed to pay back any monies received through the litigation to Smiths Group plc, and one such payment has been made. Smiths Group plc is not a liable party under Section 107(a), and has no direct obligations to the OU-1 or OU-2 Groups or to EPA. Thus there can be no impermissible double recovery for TI.

62. Plaintiffs' November 21, 2007 responses to Defendants' Joint Contention Interrogatories 78-111 consisted of a series of identical questions with respect to various parties and non-parties as follows:

What do plaintiffs contend is Agere's allocable/equitable share of the Total Cleanup Cost for the Site (expressed in a percentage)?

A. What is the factual basis for plaintiffs' contention as to Agere's allocable/equitable share of the Total Cleanup Cost for the Site?

B. Set forth the calculation used by plaintiffs to arrive at their contention as to Agere's allocable/equitable share of the Total Cleanup Cost for the Site?

Plaintiffs' statement of what they thought each party's "allocable/equitable share" was consisted of seventy pages of Plaintiffs' detailed review and analysis of the testimony taken at depositions in this action and upon documents produced in discovery, and not upon any Plaintiff's personal knowledge of any specific fact in issue. Plaintiffs clearly stated that the charts summarizing their conclusions were based solely on this detailed analysis. Specifically,

Plaintiffs stated their overall view that the Court should determine at trial the total volumes of wastes that were hauled by DCC from each Plaintiff, Defendant, and party with which Plaintiffs had by then settled. Plaintiffs then set forth their assertion that the amount of each such entity's waste that was actually disposed of at the Site should be determined based upon Plaintiffs' view that a specific percentage of all wastes handled by DCC in any given "nexus period," and that such percentages should be multiplied by the Plaintiffs' views as to volumes hauled in each such period. Finally, Plaintiffs set forth their views as to what equitable factors the Court should rely upon in allocating shares among liable parties, and how the Court should apply those factors. None of the individual pieces of this analysis constituted a statement by Plaintiffs' of a "fact;" rather, each of Plaintiffs' statements was simply Plaintiffs' *contention* as to what findings of fact the Court would make at trial, *should the testimony at trial be identical to the deposition testimony referenced by Plaintiffs and should each and every one of the documents referenced be admitted at trial*. The answers suggested the possible resolution at trial of dozens of factual and legal issues, and ultimately sought to offer Plaintiffs' view of how this Court should equitably allocate the response costs incurred by Plaintiffs among the liable parties based upon a synthesis of those issues. All Defendants disputed Plaintiffs' contentions.

For those and other reasons, Plaintiffs objected to these interrogatories on the grounds, *inter alia*, that they sought "the discovery of the mental impressions, conclusions, strategies, opinions, research or legal theories of their attorneys or other representatives" The answers were of course not based on the actual testimony or other evidence admitted at trial. Plaintiffs had previously answered these same interrogatories on April 17, 2007. The later answers differed, *inter alia*, with respect to many of the parties' volumes Plaintiffs contended

were hauled by DeRewal. The factual stipulations as to certain parties' volumes hauled by DeRewal also differ from the volumes set forth in Plaintiffs' answers.

63. Indeed, the vast majority of the potential evidence considered by Plaintiffs was *not presented* at trial. Carpenter chose not to put on any evidence concerning *any* of the wastes of Plaintiffs or the parties with which Plaintiffs had settled or where any such wastes were dumped. Plaintiffs anticipate that Carpenter may now seek to solve this failure by arguing that *specific portions* of Plaintiffs' pretrial contentions are "evidence" of "facts" that it can use against Plaintiffs, while at the same time denying that the Plaintiffs' overall view of the case presented in those pretrial contentions, and specifically Plaintiffs' statements about Carpenter, are true.

64. Plaintiffs' pretrial contentions are not statements of fact that will be considered by this Court in making findings of fact any more than Plaintiffs' citation therein to deposition testimony or specific documents put that deposition testimony and documents in evidence at trial.

65. Even answers to non-contention interrogatories are not binding on the answering party, and the answering party may introduce other evidence on the matter. 7 Moore's Federal Practice, § 33.160 (Mathew Bender 3d. ed.). The finder of fact must weigh all of the evidence admitted at trial. *Freed v. Erie Lackawanna Railway Co.*, 445 F.2d 619, 621 (6th Cir. 1971)("When there is a conflict between answers supplied in response to [fact] interrogatories and answers obtained through other questioning, either in deposition or trial, the finder of fact must weigh all of the answers and resolve the conflict"); *Giaraffa v. Moore-McCormack Linens, Inc.*, 270 F. Supp. 342, 348-349 (D.C.N.Y. 1967).

66. This is especially true with respect to answers to contention interrogatories, and the answering party may also pursue additional legal theories not stated in response to such interrogatories. *Sperling v. Hoffman-La Roche, Inc.*, 924 F. Supp. 1396, 1411-12 (D.N.J. 1996) (“under ordinary circumstances [answers to interrogatories] do not limit proof”). An important purpose of contention interrogatories is “to determine the theory of a party’s case.” *Contention Interrogatories in Federal Court*, 148 F.R.D. 441, 442 (1993). “Contention interrogatories allow a party to narrow issues concerning discovery, whereas, requests to admit allow a party to limit proofs at trial. This is shown by the fact that answers to contention interrogatories are not generally binding, but responses to requests to admit are binding at trial.” *Id.* at 452. The purpose of Defendants’ contention interrogatories was not to seek admissions by Plaintiffs of “facts,” but solely to learn Plaintiffs’ principal contentions based on discovery completed at that time.

67. Any specific statements in Plaintiffs’ responses to the November 21, 2007 interrogatory responses are disregarded. The Court will instead rely upon testimony and documents in the record to reach its Findings of Fact and Conclusions of Law.

68. Defendants stipulated that Plaintiffs have incurred \$13,678,378.55 in past costs that are necessary and consistent with the NCP. Proposed Findings of Fact ¶ 61. Indeed, because these dollars were paid pursuant to two Consent Decrees, they are recoverable as a matter of law. *See, e.g., Action Mfg. Co., Inc. v. Simon Wrecking Co.*, 428 F. Supp. 2d 288, 321 (E.D. Pa. 2006) (“[A]ny costs the [plaintiff] incurs in complying with the Consent Decree are considered consistent with the NCP and should be allocable in a CERCLA contribution action.”); *United States v. Atlas Minerals & Chems., Inc.*, 1995 WL 510304; *Morrison Enterprises v. McShares*, 302 F.3d 1127, 1136-37 (10th Cir. 2002). *See also* 40 C.F.R. Section

300.700(c)(3)(ii)("[a]ny response action carried out in compliance with the terms of ... a consent decree entered pursuant to section 122 of CERCLA, will be considered 'consistent with the NCP.'"). Included in those costs was approximately \$7,000,000 paid in settlement of EPA's past costs claim of approximately \$13,600,000 (plus a potential additional claim of two or three million dollars in indirect costs if calculated by EPA's new method. Proposed Findings of Fact ¶ 40. Plaintiffs' payment of the approximately \$7,000,000 is thus recoverable as a matter of law whether or not some portion of EPA's overall claim was barred by a statute of limitations.

69. The parties did not itemize the \$7,000,000 settlement amount, nor did they allocate any specific amounts of the settlement to any specific work or tasks conducted by EPA. Proposed Findings of Fact ¶ 43. Plaintiffs \$7,000,000 payment thus cannot be attributed to any particular costs EPA claimed to have incurred. Plaintiffs' payment of the approximately \$7,000,000 is thus recoverable as a matter of law whether or not some portion of EPA's overall claim was barred by a statute of limitations.

70. None of the past costs claimed by EPA was barred by a statute of limitations in any event. The facts and circumstances concerning EPA's comprehensive involvement with the Site, the applicable decisional law, and EPA's own policy, each require the conclusion that all of EPA's actions up until the date of the ROD constituted a single removal action for purposes of the statutes of limitations. *Kelley v. E. I. du Pont de Nemours and Company, et al.*, 17 F.3d 836 (6th Cir. 1994). The earliest date for "completion of the removal action" was thus November 18, 1998.

71. CERCLA Section 113(g)(2)(B) states:

An *initial action* for the recovery of the costs referred to in section 9607 of this title must be commenced --

(B) for a remedial action, within 6 years after initiation of physical on-site construction of the remedial action, *except that*, if the remedial action is initiated within 3 years after the completion of the removal action, *costs incurred in the removal action may be recovered in the cost recovery action brought under this subparagraph.*

42 U.S.C. § 9613(g)(2)(B)(*emphasis added*). The 2000 Consent Decree, lodged on May 21, 2000 in conjunction with a Complaint wherein EPA stated a claim for all of its past response costs and for the costs of the remedial actions identified in the ROD, constituted the “initial action” by EPA for recovery of its past and future remedial action costs and its past removal action costs. J-6, 2000 Consent Decree at 1. This action was timely with respect to all of EPA’s past costs. Because the May 2, 2000 Complaint lodging that decree was an “initial action for recovery of costs . . . [f]or a remedial action,” initiated within three years of the “completion of the removal action,” it was timely and EPA had the right to seek therein not just its past and future costs of remedial action but also all of its “costs incurred in the removal action.”

72. Section 9613(g) additionally provides, in relevant part: “A subsequent action or actions under section 9607 of this title for further response costs at the vessel or facility may be maintained at any time during the response action, but must be commenced no later than 3 years after the date of completion of all response action.” 42 U.S.C. Section 9613(g)(2). Because EPA’s “response action” was continuing as of December 6, 2001, the date the 2001 Consent Decree was lodged with this Court, the Complaint lodging that Consent Decree was a timely “subsequent action.” EPA’s claims for all of its past and future costs of response were therefore then timely. *See Kelley v. E. I. du Pont de Nemours and Company, et al.*, 17 F.3d 836.

Plaintiffs' payment of the approximately \$7,000,000 is thus recoverable as a matter of law whether or not some portion of EPA's overall claim was barred by a statute of limitations.

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CERTIFICATE OF SERVICE

I certify that on this day I caused a true and correct copy of Plaintiffs' Final Post-Trial Proposed Findings of Fact and Conclusions of Law to be served upon the following by first-class mail, postage prepaid:

ALL COUNSEL ON ATTACHED LIST

Dawn M. Neukirch /s/_____

Dated: July 18, 2008

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